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ABSTRACT

Five classroom teachers developed this long range plan for achieving educational excellence in the Anne Arundel County Public School System of Maryland during the decade of 1980s. Part I of the report gives an introduction including a list of suppositions, provides a conceptual framework that guided the work of the planning team, and describes the process used by the planning team. Part II addresses general concerns and overriding issues that transcend departmental or purely programmatic considerations. Among the issues discussed in this section are grade organization, graduation requirements, allocation of instructional time at all levels, staffing, evaluation of programs and staff development. Part III of the report addresses each program on an individual basis. Among the recommendations are pre-kindergarten programs for all four-year old children, use of calculators and computers in all instructional programs as appropriate, expansion of gifted/talented/advanced programs, implementation of an elementary school foreign language program, and implementation of a separate health education curriculum. Finally, Part IV discusses some preliminary activities for implementing the Ten-Year Plan. (Author/GK)

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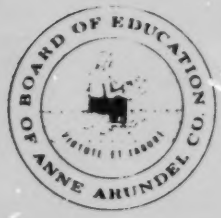
Ten-Year Plan for Educational Excellence

Anne Arundel County Public Schools
August, 1980

Edward J. Anderson
Superintendent of Schools

TM 810 853

Ten-Year Plan for Educational Excellence



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PREFACE

Ten years is a long time for which to attempt to plan; yet planning is an integral part of any process which aims at achieving a specific goal. The challenge facing educational planners is to determine what action should be taken to meet future needs of children and society. This involves not only modifying what already exists, but also creating new dimensions.

The educational system of the future must utilize new technological developments for educational purposes, provide a wide variety of realistic learning experiences for the learner, and involve the student in making decisions so that ultimately the student assumes responsibility for lifetime learning.

Planning for the future is a continuing process; ongoing evaluation and updating are necessary ingredients. It is intended that this document receive widespread review by persons both within and outside the school system; that this review should include maximum opportunity for input, for suggestions, for detailed reaction; and that this response be part of any action undertaken by the Board of Education regarding the contents of this report. This is to say, the report should not stand alone, but should be considered within the total context of responses to it, for only in this way can it have relevance or use in achieving excellence in education.

ACKNOWLEDGEMENTS

The Committee wishes to commend the Board of Education for its foresight in recognizing the need for long-range educational planning. In addition, the committee members are grateful for the confidence placed in us to develop this plan.

Also we wish to express our appreciation to Superintendent of Schools, Dr. Edward J. Anderson, who encouraged the Committee to find its own way and seek its own solutions in all cases, while at the same time allowing the Committee to call upon his expertise for instructive guidance. Appreciation is also expressed for the invaluable assistance received from Dr. Edward H. Mitchell, Assistant Superintendent for Program and Staff Development, under whose direction this document was developed and whose educational competence was utilized to great benefit.

The Committee would also like to express its gratitude to Mr. Bob White for his technical writing assistance and to Mrs. Marsha Barsky for her unending patience, untiring efforts and cheerful assistance which were as important to us as her expert organizational and typing skills.

Additionally, the Committee wishes to thank Dr. Bonnie Rinehart, Administrative Assistant to the Assistant Superintendent for Program and Staff Development for her help and input, and to the large number of other central office and school-based professional staff members and administrators whose contributions to the work reflected in this report proved invaluable.

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July, 1980

PART I

Introduction

Conceptual Framework

Process

INTRODUCTION

During the past ten years, the Anne Arundel County Public School System has faced a great many challenges and made a great many improvements. For example, the school system has effectively eliminated double sessions, significantly reduced class sizes, reversed the trend in declining test scores, and effectively addressed both disruption in the classroom and the use of drugs and alcohol by students.

There have been other achievements as well, and as the decade of the Eighties began, the question on many lips was, "where to from here to improve educational programs?" In his State of the Schools message at the end of the last decade, Superintendent of Schools Edward J. Anderson answered that question, placing before the Board of Education and the entire school system staff a bold new challenge: to make the Anne Arundel County Public Schools among the best in the nation by the end of the Eighties. The basic foundations having been put in place and the basic challenges having been met, the drive now was to move toward excellence at every level.

In accordance with this call to greater action, the Board of Education in September, 1979 approved the development of a Ten-Year Educational Plan for Anne Arundel County, to be submitted during the summer of 1980. The question of who should develop the plan was addressed in a unique way. The document might well have been put together by school system central office staff members, school-based administrators, or outside consultants. However, the Board of Education chose instead to go directly to those presently on the front line -- to teachers -- for the document it wished to see a year later.

A Ten-Year Planning Committee was formed, with five teachers granted a one-year leave from their classroom duties in order to undertake the work. The committee was charged with examining closely every educational program in Anne Arundel County, assessing the present status of those programs, conducting research in each area of inquiry, listing what it felt were major concerns within those areas which should be addressed, and seeking input from a variety of sources both within and outside the school system. Ultimately, the Committee produced a series of specific recommendations on a program-by-program basis and on overriding issues that cut across all program areas as to which directions the school system should take in the decade ahead.

The plan which has been developed by the Committee and which makes up the body of this report is the result of more than 12 months work on the project described above. It is an attempt to reach beyond the minimum competencies to be required for graduation by the Maryland State Department of Education's Project Basic and to set a standard for excellence in Anne Arundel County. The plan takes into account the school system's goal of striving for excellence by providing programs that encourage students to continually pursue higher levels of learning, in accordance with their capabilities. The recommendations found in this document, then, are reflections of excellence; of what the committee believes must be done if excellence is to be achieved by the county's public school system.

It is extremely important to understand that nothing of what is said here, nothing of what is contained in this report, has been cast in stone. No planning document can be of any use unless it is flexible. Built into this long-range plan, then, is the expectation that there will be annual reviews of goals and objectives, as well as progress made. These reviews shall provide for -- and will no doubt produce -- yearly alterations and changes in the overall planning scheme. That is as it should be. Priorities change as conditions are altered. The document should be considered fluid, not permanent, in terms of the objectives and the ways of reaching those objectives which are outlined within its several sections.

It should also be emphasized that this long-range planning document is not a reaction to limitations or abhorrent deficiencies within the school system. It is, rather, a reflection of the true status of education in the county: we are in a position at last -- having met basic challenges in a most effective manner -- to begin looking at larger questions, larger concerns, and larger issues; to examine closely the present and to project into the future in a meaningful way.

In developing the document in hand, the Planning Committee made a number of suppositions. These are listed below for it is within this context that the plan must be considered.

Suppositions

1. The Ten-Year Plan is not intended to develop curricula or to determine one best method of teaching. Rather, its purpose is to recommend curriculum development, revisions or modifications in those areas where the Planning Committee feels such action would produce the movement towards excellence which the Board of Education has chosen to adopt as its goal in the decade of the Eighties.

2. Anne Arundel County Public Schools have unique needs and characteristics which must be taken into account in the planning process.

3. In ten years, the county schools will continue to have a comprehensive curriculum organized into basic content areas.

4. The post-graduate experiences and needs of students over the next decade will require the school system to recommend and implement changes to meet those needs.

5. There will not be a significant amount of new resources available to the school system in the next decade. Hence, most changes recommended will have to be implemented through the reallocation of current resources and the altering of functions of present personnel.

6. In ten years students will be required to attend school for at least the number of years they do now.

7. The solutions to many of the schools' problems emanate from sources over which the schools have little or no control.

8. Institutions resist change, but schools cannot afford that luxury. They must respond to changing conditions rapidly and without fail if they are to continue to meet the needs of their clientele effectively.

9. Education must consider the pluralistic nature of society.

10. Current research, trend analysis and needs assessment must necessarily serve as a basis upon which to formulate recommendations.

There are other factors, too, which impact upon the need for such a planned approach, and for some changes in the decade ahead. The following statements, from a report released by the Educational Planning Center at Syracuse University, show how technological advances and sociological changes alone require continual modification of programs.

> Half of what a person learns is no longer valid when he reaches middle age.

One-third of the items on supermarket shelves did not even exist ten years ago.

Three-fourths of all people employed by industry twelve years from now will be producing goods that have not yet been conceived.

More mathematics has been created since 1900 than during the entire preceding period of human history.

Half of what a graduate engineer studies today will be obsolete ten years from now; half of what he will need to know is not yet known.

Sixty million jobs will change character in the next generation.

Six-year-olds now starting school can expect their vocations to change three times during their lifetimes.

With these suppositions and thoughts in mind, the Committee has addressed all instructional areas except special education and made recommendations which it considers feasible to accomplish, consistent with major goals of education in a democratic society, and critical to the striving for excellence.

While one cannot foresee the future, there are advantages in planning for it. Planning helps to raise the level of consciousness about future implications of present decisions, to select the most desirable and feasible alternatives from among many possibilities, and to make the chosen course of action more probable to occur. After a great deal of study, the committee is convinced that long-range planning is necessary if a school system is to achieve excellence.

What appears on the pages which follow is the planning committee's attempt to respond in a positive, creative, imaginative, dynamic way to the considerable task which was placed before it in the summer of 1979. There will be those who disagree with portions of this report, who have objections to raise about the Committee's assessment of the present status of things, who differ on conclusions found in some of the research, and who would move in directions other than those proposed herein in terms of recommendations for the decade ahead. This is as it should be. Also included is an implementation component calling for additional reaction and constructive responses from citizens, teachers, administrators, central office personnel, parent-teacher associations, citizen advisory committees and all others who have interest in, and concern for, education in Anne Arundel County. It is anticipated that this input will be utilized by the Board in making final decisions about the various components of the plan.

CONCEPTUAL FRAMEWORK

A major challenge of the Committee was to develop a framework; a reference point from which the instructional programs could be viewed, assessed and analyzed. A three-dimensional conceptual framework was devised. As data pertaining to the plan were collected and studied to provide a foundation for committee recommendations, the data were placed against this three-sided grid to provide consistency and efficiency in its application and utilization. The grid is shown in Figure 1.

Program Areas

The face of the grid shows program areas and refers to instructional and support programs of the school system, such as mathematics, language arts, science, guidance.

Grade Organization

The school system's programs were analyzed by grade level, as shown by the grid's categories of Elementary (K-5), Middle (6-8) and Senior High School (9-12). The grade organization parallels that of existing curriculum guides in which grade levels have been organized as follows: Elementary (K-5), Middle (6-8), and Senior (9-12).

Because of the variety of grade organizations currently used in the county (K-6, K-5, 1-5, 1-6, 6-8, 7-8, 7-9, 7-12, 10-12, 9-12), it was necessary for the Committee to decide upon one organizational pattern for consistent analysis of instructional programs.

Program Components

Components which generally affect each program (curriculum, staffing, staff development and evaluation) were considered. Curriculum includes program goals and objectives, content and, where appropriate, suggested activities. Staffing refers to personnel patterns for delivery of educational services. Identified under staff development are those preservice and inservice training activities relating to implementation, maintenance and improvement of curriculum. Evaluation refers to the process of assessment of program success in terms of meeting goals and objectives.

Application of Framework

In the broadest sense the grid offered the Planning Committee a frame of reference from which to analyze each program area according to grade organization and program components. Obviously, not all components on the grid were applicable for each program area. For example, there would be no curriculum component for driver education at the elementary school level.

The process of applying the framework produced an additional benefit. Use of the grid provided the consistency needed to identify concerns cutting across all program areas -- such as graduation requirements, time allotments, scheduling, extended day programs and others.

These are examined in a separate section which begins this report under the heading of General Concerns and Overriding Issues.

Conceptual Framework

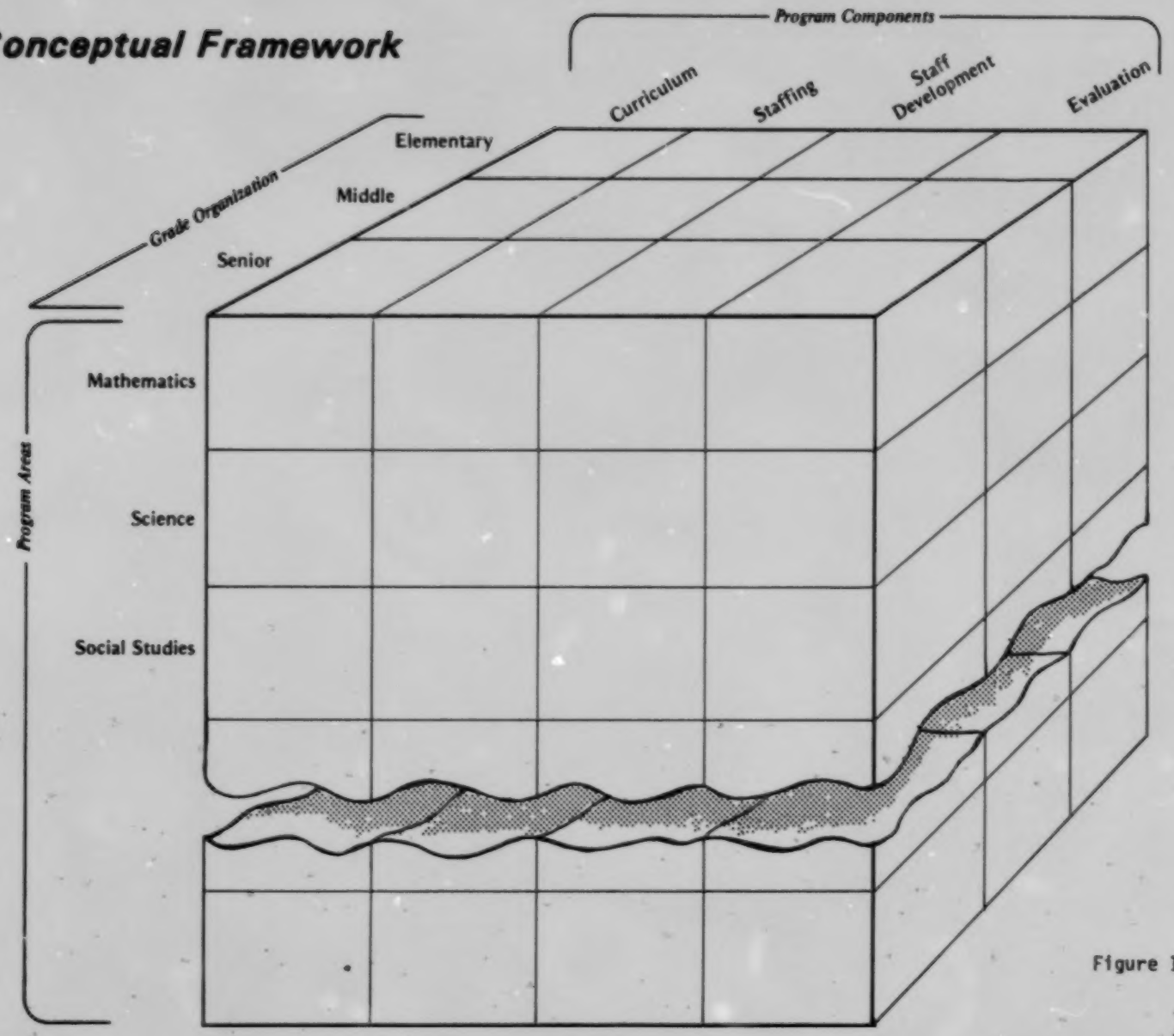

Figure 1

PROCESS

During the summer of 1979, a committee of classroom teachers worked in the Office of Program and Staff Development to develop a preliminary report that could be used for more extensive planning of educational programs in the next decade. The Committee's efforts culminated in the report, "A Preliminary Planning Document for Achieving Educational Excellence." This document identified present status based on discussions with central office staff and selected principals and teachers; gave a rationale for the recommendation to be made and included a recommendation based on a consensus of the Committee's opinions, not a consensus of the research or the staff's opinions. This document was presented for review to the Board of Education on September 17, 1979.

The Board accepted the recommendation to release a team of classroom teachers from their teaching assignments for the remainder of the 1979-80 school year in order to prepare a comprehensive long-range educational plan which would be based upon research. After review by the Board, the preliminary document was sent, in October, 1979, to all principals who were asked to share the document with their respective faculties.

The preliminary report was used as the basis for a more comprehensive plan. Individual team members assumed the responsibility for researching different areas of the curriculum, beginning with an examination of literature and research in the content areas. Also, conferences were held with national leaders and scholars in the field of education (Appendix A - Resources Outside of Anne Arundel County Public Schools).

As the research progressed, formal and informal team meetings were held to provide opportunities for team members to share identified instructional program patterns and needs.

In December, 1979, a document was prepared which identified topics in each curriculum area the Committee felt needed to be addressed, or at least considered for inclusion, in the long-range plan. Also included in the December document was a conceptual framework to assist the Committee in organizing its work. The framework provided a model for dealing with curriculum, staffing, staff development, and evaluation in each program area at each major grade organization. (See Conceptual Framework section of this document.) The December document also proposed a tentative format to be used for each topic: present status in the school system, research findings and recommendations.

As the process continued, the original intent to write research papers on each topic was not feasible if the plan was to be completed in one year. Instead, it was decided that annotated bibliographies would be compiled for each recommendation. Research papers, annotated bibliographies and other pertinent data would be available to all interested parties who wish to investigate further.

The format used in December for treating each topic was adapted into summary papers for each recommendation in each program area.

The present status in the summary papers was determined through interviews with assistant superintendents, directors, program coordinators, selected principals; by a written survey of teachers; and through an examination of board exhibits, curriculum guides, computer print outs, and staff reports.

The major research findings were actually a consensus of findings uncovered through Educational Resources Information Center (ERIC) searches, in doctoral dissertations, and from consultations with personnel both inside and outside the school system. Tentative recommendations were made after consideration of both the present status and the research findings. Inherent in each recommendation was the expectation that it would be reviewed on a yearly basis.

After the summaries were developed, reactions to them were solicited from teachers, principals, program coordinators, directors, assistant superintendents, and members of the following organizations: Teachers Association of Anne Arundel County (TAAAC), Association of Educational Leaders (AEL), Countywide Citizens Advisory Council (CAC), County Council of Parent-Teacher Association's (CCPTA) and Chesapeake Regional Association of Student Councils (CRASC).

These reactions were given to team members through reaction sessions, written communications, informal discussions, and additional planned group meetings. A summary was written which represented a consensus of comments made at the reaction sessions. Each reaction session summary was included in the back-up information along with other written communiques.

Following a reaction session, the committee members, along with the Assistant Superintendent for Program and Staff Development, reviewed each summary paper. Comments made by reactors were considered, various points in the paper -- especially the recommendations -- were debated, and the team member responsible for that topic revised the summary paper so that it would reflect the decision of the group. The decision of the group, in most cases, represented a consensus by the members. In instances where disagreements arose, the matter was put to a vote. In every case the recommendations contained in this document reflect the majority viewpoint of the committee.

There were many issues that did not fit within a program area or that transcended a number of program areas. These issues were categorized and subsequently, included in the sections of General Concerns and Overriding Issues.

In addition to completion of the summary papers, team members, working in consultation with the program coordinator, developed a planning chart for each program area recommendation. Each chart outlines the tasks for each year and indicates the person primarily responsible for the task. Since the plan encompasses ten years and all recommendations may not be initiated in the same calendar year, year one on the chart represents the first year of implementation for the recommendation, not the first year of the ten-year plan. If or when the recommendations are adopted, the charts, which are on file in the Office of the Assistant Superintendent for Program and Staff Development, will be refined and used for implementing the recommendations. (See Appendix B for a sample chart.)

The Committee addressed all instructional areas within the school system except special education. The Committee considered prioritizing the recommendations but the very nature of the recommendations indicated that a decision made on one may produce an effect on several others. However, the Committee did identify certain recommendations as being critical to a plan for excellence and categorized all other recommendations according to similarities. These groupings appear in summaries of Parts II and III.

The plan was completed in rough draft by July, 1980. The Committee then reviewed the document section by section, making final alterations, clarifying specific points and preparing it for publication and submission to the Board of Education.

PART II

General Concerns

and

Overriding Issues

GENERAL CONCERNS AND OVERRIDING ISSUES

Introduction

During its examination of each of the programs of the Anne Arundel County Public School System, the Ten-Year Planning Committee encountered repeatedly certain issues and concerns which transcended departmental or purely programmatic considerations.

The Committee has catalogued these issues and concerns in this section of the document. A number of pages are devoted to what the Committee has called General Concerns. These are matters which cut across program areas and impact upon the school system as a whole. They are reviewed and discussed in summary form, with the Planning Committee's recommendations concluding each subsection.

The Overriding Issues are presented next, each under a separate heading and in a separate paper. Each issue is examined in detail in terms of its impact upon the school system at large and the total educational program. Research is reviewed in narrative fashion, with the Planning Committee's recommendations concluding each subsection.

GENERAL CONCERNS

The following issues, raised in this section, are not presented in a priority order.

1. Comprehensive High School Program
2. Grade Organization
3. Funding Allotments
4. Weighted Grading
5. Pass/Fail Grading
6. Interdisciplinary Curricula
7. Global Education
8. Homework
9. Supplementary Programs
10. Central Purchasing and Repair
11. Career Education
12. Outdoor Education

Comprehensive High School Program

No item of educational practice or theory has attracted more widespread attention among the clientele of public school systems across this country over the past few years than the matter of provision of a sound, comprehensive education for all children.

As the trend in public education moved toward the offering of more and more elective courses a segment of the public perceived this as a corresponding move away from "the basics."

Whether this is, in fact, true is open to argument. School systems by and large insist they are offering as good a basic education as they ever did -- and evidence, such as recent achievement test results in Anne Arundel County, suggests very strongly this is the case. The county has consistently ranked above the state and the nation in recent years on measures such as the Scholastic Aptitude Test (SAT).

Yet it is also true that in Anne Arundel County the standard course description guide lists 374 individual courses from which students may choose in putting together their secondary school class schedule. A breakdown of the number of courses available under each major program heading follows:

Instructional Program	No. of separate courses offered
Art	28
Business Education	28
Driver Education	1
English/Language Arts	56
Foreign Language	25
Home Economics	14
Industrial Arts	15
Mathematics	20
Music	37
Physical Education	17
Science	37
Social Studies	38
Trades and Industry	27
Cooperative Work Experience	11
Special Education	19
Alternative Credit	1
TOTAL	374

There has been some concern expressed about this circumstance, and the planning committee believes there is a need to require certain course offerings at each secondary school so that these fundamental courses are consistent from school to school.

The county school system currently has not defined precisely which courses will, and must, be offered within every school's curriculum before additional courses may be included in the school's offerings. The absence of such a clear determination has led to cases in which certain schools have failed to include courses in their program of offerings which a student should be able to find at any comprehensive high school. (In one such case, for instance, a school planned to eliminate Chorus for an entire school year for staffing reasons, despite the fact that Chorus is a rather basic music course one would expect to find at every school.)

The county would be well advised to set down in writing exactly what it means by a Comprehensive High School Program. The development of this document may well provide an excellent opportunity to review the content of all courses now being offered to ascertain whether some of them can be combined, or in other ways restructured, to eliminate "double coverage" of instructional material.

The Planning Committee's views on this matter should not be in any way interpreted as an indictment of the job which has been done in designing and implementing certain specialized elective course offerings. It is, rather, a suggestion that the school system now assess from a broader perspective the total needs of the countywide student body to determine the most efficient way in which those needs may be addressed.

Recommendation

* The Committee recommends the establishment of minimum offerings for a comprehensive high school program.

Grade Organization

One need work closely with the curriculum in the Anne Arundel County Public Schools for only a short period of time to come to the realization that a major problem exists with regard to grade organization here -- a problem which impacts upon the whole question of equal educational opportunities for all students, as well as the matter of efficiency of delivery of instructional material through the curriculum structure.

The move some years ago toward the establishment of middle schools, and the truncation of that effort, is without question the prime factor in the creation of this problem.

The middle school concept calls for the joining of the sixth grade with seventh and eighth grades in a new school setting. In junior high schools, the student cluster includes grades seven, eight and nine.

By moving to the middle school format, the intent was to shift sixth grade classes from elementary schools to the middle school setting, with a corresponding shift of ninth graders into the senior high school arena.

This has been accomplished in several attendance areas in Anne Arundel County. The problem results from the fact that in nearly half of the county's attendance areas, it has not. The reasons for this: insufficient space in certain senior high schools to accommodate an incoming ninth grade class, and a sudden cutoff or curtailment of State school construction funds to support expansion of facilities or construction of new schools.

The bottom-line product of all this: Some elementary schools in the county are organized on a K-5 basis, some K-6, some 1-6, and some 1-5. There are nine middle schools serving grades 6-8, one serving grades 7-8, seven junior high schools serving grades 7-9, and one junior/senior high school combination. Seven areas of the county contain high schools housing grades 9-12, while senior highs in four other areas serve grades 10-12.

The impact of this badly staggered organization on curriculum design and implementation is considerable, and becomes clear at once when an effort such as that assigned to the Ten-Year Planning Committee is undertaken.

There is no question that the educational program offered sixth graders at the elementary school level differs, both in terms of course availabilities and delivery systems, from the program offered to sixth graders in middle schools. Science students in middle schools work with a fully equipped laboratory, for example, while sixth grade science students at elementary schools do not. A recommendation in this plan calls for the offering of a newly designed Exploratory Music course for sixth graders ... but sixth graders now attending elementary school will have to wait until seventh grade in junior high school in order to take it.

This disparity exists between junior and senior high schools as well. For example, ninth graders in junior high are unable to try out for senior high school athletic teams, or take a great many of the elective courses open to ninth graders housed in senior highs.

Until the conflict in grade organization is resolved, many of the major recommendations contained in this Ten-Year Plan can be implemented only fragmentally, that is, only in those attendance areas where the grade organization permits. Recommendations relating to "all elementary schools" may touch half of the county's sixth graders, but not the other half. Recommendations pertaining to "all senior highs" may likewise affect a portion of the county's ninth graders, but not all.

Recommendation

* The Committee recommends that a consistent grade organization be implemented.

Funding Allotments For Equipment And Materials Of Instruction

Currently in Anne Arundel County, financial resources for materials of instruction (MOI) are allocated in two ways: at the elementary school level these funds are allocated on a per pupil basis for all programs; at the secondary school level, these funds are allocated on a per teacher basis, by program with the exception of media. For the past two years, because of the limited amount of funds available for equipment, these funds have been allotted from the central office on the basis of individual school needs.

Since funds are assigned to schools based on pupil or teacher basis, rather than educational program needs, educational program implementation problems can and sometimes do result.

It is immediately clear, for instance, that an elementary school with 800 students will be in a far better position to purchase four microscopes for science lessons than a school with 100 pupils when equipment and MOI is allocated based on enrollment. Some effort has been made to alleviate aggravated circumstances such as these by providing for additional allocations to schools from flexible funds allocated to each elementary director, to assign to individual schools at his or her discretion. Nevertheless, budgeting funds based on program needs in the first instance, rather than running in later with "band-aid allocations," seems the far better way to proceed.

A problem also arises once funds have been allocated to the major program areas in elementary schools. The "Elementary-Regular" budget category combines science, mathematics, social studies and language arts monies which are designated into accounts for materials of instruction (including textbooks), new equipment, and replacement of equipment. In attempting to ascertain precisely how much money is being spent for resources and materials in each major subject area, the committee found that there currently exists no mechanism for calculating expenditures for individual content areas. Records of all individual expenditures are kept, but thousands of individual requisitions would have to be examined to determine how much of this instructional money went specifically to each content area. Over the years, it is impossible to compare program expenditures with program effectiveness or to project future program needs.

At the secondary level, allotment of funds on a per-teacher basis by program area allows for greater consideration of program needs, but still misses the mark somewhat. Schools with greater numbers of teachers in certain academic programs wind up with more money than schools with a smaller complement of instructors in those same programs. This creates an imbalance in the funding for the program between schools. When program needs are examined, funding will be more appropriately distributed from school to school for MOI and equipment. Discrepancies will thereafter very quickly erode.

Recommendation

* The Committee recommends allocation and disbursement of funds based on a yearly, school-by-school assessment of program needs, rather than pupil or teacher population.

Weighted Grading

As the drive toward excellence of education continues within the Anne Arundel County Public Schools, the move toward weighted grading seems worthy of exploration.

Weighted grading is a system of evaluating performance which takes into account the difficulty of the course in which students are enrolled. Use of such a system makes it possible for that student who ordinarily can be expected to earn an "A" in a regular-ability class to earn similar grade-point values in an advanced class.

Under the concept of weighted grading, value is added to the initial grade earned by a student, based upon the difficulty of the course the student has taken. Under normal circumstances, the student confronted with advanced material is granted whatever grade he earns. Using a weighted grading system, achieving a "B" on advanced material is equal to achieving an "A" on material designed for the average student.

It is a fact that many students do not enroll in advanced courses for fear of lowering their overall grade-point average -- a prime consideration of many high achieving students, and particularly those hoping for college admission and college scholarships.

Weighted grading accepts as its philosophy the position that students should be rewarded for reaching, as well as for attaining. Its encompassing view is that the more the student reaches out, the more he will attain.

Recommendation

* The Committee recommends the development and implementation of a weighted grading system for grades 9-12.

Pass/Fail

Few educational issues create as much of a reaction, as quickly, as that of pass/fail. Yet the concept is not without its merits and the Committee feels it should be explored, along with other grading systems. Pass/fail grading may prove particularly useful in some special subject areas, such as art, music and physical education.

Those who favor the pass/fail system point to the fact that the evaluation of a piece of art, a musical rendition, or a gymnastic experience is a purely subjective matter based on

criteria not very precise. The judgment is not who drew the "best" picture, played the "prettiest" music or performed the "most difficult" gymnastic routine, but rather, whether the student has learned to do these things at all; whether he has mastered certain basic skills which all students must learn in order to "pass." Beyond that, proponents argue, performance cannot be quantitatively evaluated.

Unfortunately, there is a great temptation for teachers in cases such as these to apply external standards to the performance of students in order to come up with a grade. It is an uncomfortable fact, for instance, that while the official policy calls for grading in physical education to be based solely on individual achievement and progress, this policy is frequently replaced, unofficially, by a standard which measures one performance against another.

The problem is not limited to abuse of the grading policy, but extends to the difficulty of coming up with a judgment as to what grade should be earned without using the achievement of others as a measure. When there is specific content to be learned and mastered, as in mathematics, for instance, the matter becomes clearer. When performances are measured, the challenge of quantitative grading increases in complexity.

Recommendation

* The Committee finds pass/fail grading to be sufficiently meritorious to justify further exploration as to its applicability for certain courses.

Interdisciplinary Curricula

Just as new grading approaches may be profitably explored, so, too, might some benefit be derived from examining new approaches to curriculum design and implementation.

Curricula could be more carefully correlated to produce cross impacts between subject areas. Activities could be planned in concert with one another from classroom to classroom and discipline to discipline, producing closer harmony of overall content and more rapid learning.

There appears no reason why, when a given concept is being taught in mathematics at a certain grade level, the students at that same level cannot be confronted in science class with problems requiring application of those precise mathematics skills. However, correlation of curricula requires more than just advance planning by individual teachers. It requires that curriculum be correlated as it is being designed.

If all learning content is melded in advance to produce points of interrelation, there can be no doubt that at the end of the school year, the student will have not only learned more, but also grasped the relevancy of what he has learned.

Recommendation

* The Committee recommends that the implementation, development, revision or modification of curricula be interdisciplinary.

Global Education

Global education deals with presentation of facts and information about the world as it is today, about the interrelationship of all nations, all peoples, all cultures and traditions. International content should be part of the teaching of all subjects and within the capabilities of all teachers.

Only half of the public (52%) knows that the United States must import oil to satisfy its energy needs, according to a research study. Alarmingly, the study was taken after, not before, President Carter's television speech on energy a number of years ago.

It is becoming apparent that the fate of some of us is becoming the fate of all of us on this planet. Never before has there been a greater need to know, to understand, to be able to communicate with and appreciate the value structures of people in other lands and their cultures and traditions. Yet fewer than 2% of U.S. high school graduates in 1977 had even studied the basics of a single foreign language -- much less learned other important facts about the international community.

To this need global education addresses itself. Content in global education can begin in kindergarten and continue throughout the school experience. However, far more junction is needed between curricula and teachers of social studies and foreign languages which offer natural avenues for teaching about other cultures. Other subjects also lend themselves to the concept of global education.

Recommendation

* The Committee recommends that global education be incorporated into appropriate curricular content areas, K-12.

Homework

A great deal has been written in recent years about homework, and its place in the educational process. The Planning Committee has reviewed this subject and finds that homework should:

- always have a specific purpose
- be coordinated with the total program of the student
- vary in quantity and difficulty depending upon student ability

The Committee also believes there is room for greater consistency with regard to homework policy among teachers. This will avoid situations in which the student is overburdened with homework on a given night. Finally, homework should not be given for punitive reasons, or for the sake of mere redundancy.

Recommendation

* The Committee recommends that the board of education strongly reaffirm the value and appropriateness of homework as an instructional tool and direct each school to develop formalized practices regarding its assignment to produce policy consistency.

Supplementary Programs

It has been the philosophy of the Anne Arundel County Public Schools that learning does not take place only within tightly controlled time sequences, or within neatly packaged segments. For this reason, the school system has long supported and advanced the use of supplementary programs - summer school, evening high school, adult education, adult basic education, the multi-service community center, the Maryland Adult External High School Diploma Program and others.

Persons of all ages must be provided continuing opportunities to learn, advance in their knowledge of given subjects, and move forward in their total growth experience. Ways should be explored in which the relationship between supplementary programs and the regular classroom program may be strengthened.

Recommendation

* The Committee recommends continued strong endorsement of supplementary programs by the school system, with investigation of ways in which the supplementary education offered here can be even more closely correlated with regular program objectives and meet continuing educational needs of county citizens.

Central Purchasing And Repair

There does not appear to be sufficient use of central purchasing by the school system as a means of reducing both cost and inconvenience within some program areas. It is, for example, a fact that many home economics teachers travel to their local grocery store to acquire consumables for use in the classroom. At the same time, massive amounts of food are being delivered daily to the school cafeteria. There are other areas, too, where central purchasing procedures could be applied. For example, items such as certain science supplies could be put on the bid list.

This same concept should be utilized when repairing equipment. To some extent this is now being undertaken, as evidenced by repair teams which have recently been established by the school system in media and other areas. In the upcoming school year, repair persons will be hired for repairing sewing machines and pianos. Consideration should be given to using central repair procedures for the repair of musical instruments and the maintenance of typewriters and other widely used equipment.

Recommendation

* The Committee recommends greater use of central purchasing and repair procedures.

Career Education

Career education is inseparable from education in general, since ultimately eduation leads to a vocational objective. Therefore, it is the responsibility of the school to develop a positive attitude in all students toward work and to foster the idea that all work is honorable. To reflect this belief, all areas of the curriculum should incorporate career education into their programs for the purpose of building the relevance of school and facilitating the complex task of career choice.

This concept should be developed in the elementary years by instituting attitudes toward and an introduction to the world of work; in the middle years by developing attitudes and behaviors for work in a deeper vocational exploration; and in the final years by providing an opportunity for a specific vocational skill development.

For the purpose of insuring that each individual has the maximum opportunity to select a career freely and to recognize that his choice will be based on knowledge of self, environment, educational training and opportunities, the school should provide continuous guidance beginning at an early level so that the student will be able to identify talents and set realistic and knowledgeable goals.

Career education is an established program in Anne Arundel County, with career concepts designed for all program areas.

Recommendation

* The Committee recommends affirmation of the current philosophy of infusing career education into all program areas and continuation of the career education program in all schools at all levels.

Outdoor Education

The outdoor education program is designed as a means of extending regular classroom programs in all subject areas. The concept of outdoor education is to both reinforce and to expand learning opportunities.

Social studies may, for example, use an outdoor facility to explore leadership roles undertaken in a group setting, such as during a camping expedition. They may also use the facility to refine map making skills. Science classes may use the outdoor setting for a number of lessons and experiments. Art classes may do the same. All program areas, in fact, can integrate learnings in an outdoor environment.

Even though many outdoor education activities can be conducted at the home school, the county's facility at Arlington Echo has been invaluable in providing a new and refreshing atmosphere within which to provide instruction in ways which could not be achieved at or within the home school setting. In addition, cooperative arrangements have been made with other organizations to use their facilities (e.g., West River Methodist Camp).

Recommendation

* The Committee recommends continued use of outdoor education as an extension of the regular education program, with the school system seeking ways to allow more students to benefit from such experience.

OVERRIDING ISSUE #1: Graduation Requirements and Time Allotments

Discussion of the Topic

The high school diploma traditionally signifies successful completion of a given set of requirements which form the minimum criteria for graduation. In the state of Maryland, students must satisfy criteria in three areas: an enrollment requirement, a credit requirement, and a proficiency requirement.

Enrollment Requirement

To meet the enrollment requirement students must satisfactorily complete four years of study beyond the 8th grade.

There are exceptions to this requirement, however. A student may graduate in less than four years by means of one of the following options:

(1) an accelerated 20-credit program in which students may obtain the minimum credits needed for graduation in a shorter time span, by request in writing from the student and his parent and with the approval of the superintendent of schools
(2) an early college admission program in which the high school diploma is awarded upon successful completion of a year of college work
(3) early admission to approved vocational, technical, or other post-secondary school for which the student may receive a high school diploma after successfully completing a year of post-secondary work
(4) a job-entry training program in which the student earns the eight elective credits for satisfactory work "on the job" under the supervision of a school teacher-coordinator (The 12 minimum required credits in designated subject areas must be taken in the regular school program.)
(5) a general educational development testing program in which a student may receive a Maryland high school diploma for satisfactory performance on approved tests

Of these five alternatives to the four year enrollment requirement, the first is the most commonly used in Anne Arundel County, with approximately 275 students doing so in the 1979-80 school year. Limited use is made of the other four alternatives, as exceptions to the four-year enrollment requirement.

Credit Requirement

The credit requirement mandates a minimum of 20 credits beyond the 8th grade. A unit of credit is based upon satisfactory completion of a specified number of clock hours. Satisfactory completion of 132 clock hours earns one credit; 66 clock hours is required for a half-credit, and so on. In order to clock enough time to earn one credit within a 180 day school year, the minimum daily time allotment is 44-minutes. Table I shows the number of clock hours required by the Maryland State Department of Education for the various credit units.

Table 1

Credit Clock Hours and Minimum Daily Instructional Periods

Credit	Clock Hours	Daily Period in Minutes	No. Days Needed to Meet Clock Hrs. Reqs.
1	132	44	180
1/2	66	44	90
1/3	44	30	90
1/4	33	44	45

Anne Arundel County does not offer any courses at the present time awarding 1/3 or 1/4 credits. Instructional periods in county high schools range from 45 to 50 minutes over the 180-day school year — more than sufficient to meet the clock-hour requirements for both the 1-credit and the ½-credit courses.

In addition to specifying the number of years a student must be enrolled beyond the 8th grade, and the number of credits which a student must earn, a student is required to earn no less than 4 of the 20 credits referred to in the section above in the area of English Language Arts, no less than 3 in Social Studies, no less than 2 in Mathematics, 2 in Science and 1 in Physical Education.

Individual school systems in Maryland are required to adhere to this prerequisite for graduation. In addition, local education agencies (LEA's) are given authority to require that two more of the 20 credits be earned in specific subject areas. Some school systems in Maryland have chosen to do so. In Anne Arundel County, however, the minimum requirements match those of the State at the present time.

This structure of required courses is shown in the chart below. In both Maryland and in Anne Arundel County, 12 of the 20 credits needed to earn a high school diploma must be in the following areas:

	State Required	A.A. Co. Required
Eng. Language Arts	4 credits (local option as to how applied)	4 credits (1 in English 9, 1 in composition, 1 in reading or literature, ½ in speech or drama, and ½ in an English elective course)
Social Studies	3 credits (1 in U.S. History, 1 dealing with contemporary issues, including local, state and national government)	3 credits (1 in U.S. History, ½ in American Government ½ in contemporary issues, and 1 in a department elective course)

Mathematics	2 credits (local option)	2 credits-any math courses
Science	2 credits (local option)	2 credits-any science courses
Physical Education	1 credit (½ must be earned in Grade 9)	1 credit (½ must be earned in Grade 9)

While only 20 credits are required for graduation, it is pertinent to note that the normal high school schedule provides time for taking up to 24 credits. This means that students may take up to 12 elective credits in addition to the 12 required credits listed as graduation prerequisites. Electives may be drawn from additional courses within the departments named above or from separate program offerings in subjects such as art, music, foreign language, home economics, and others.

Credit For Advanced Work

Although the graduation requirements in Maryland specifically call for the earning of 20 credits beyond the 8th grade, the State Board of Education has granted local school boards authority to grant credit to students taking courses in mathematics (Algebra I and above) and foreign language in the 8th grade if approved by the superintendent of schools. In Anne Arundel County, the Board of Education has applied this policy, adopting the position that students should receive equal credit for equal work. Further, the local board has asked the state to extend this policy below the 8th grade, allowing students who undertake advanced work in the 7th grade or below to also earn credit towards high school graduation.

A recent ruling by the attorney general of Maryland, however, found that the state Board had acted in violation of its own bylaws by allowing local school systems to grant advanced credit even at the 8th grade, to say nothing of grades below that level. In order to place itself back in compliance with its own regulations, which carry the weight of state law as they relate to education, the state Board was thus directed to discontinue its policy of granting credit for work completed before Grade 9, or to change its bylaw, beginning with the 1980-81 school year. If unaltered, the bylaw will disallow awarding credit below the 9th grade after the 1979-80 school year.

Earning Credit Outside the School Setting

Students may earn credits in summer school, evening school, and correspondence courses whose programs and examinations have been approved by the Maryland State Department of Education. Credit may also be earned through tutoring and examination (a maximum of 6 credits may be earned toward graduation through examinations), as well as through work/study programs and experience outside the school when identified as an intergrated part of a planned educational program (no more than 8 credits may be earned in this way).

Out-of-Course Credit

Another aspect of the credit requirement is the practice of awarding credit for courses outside of the instructional area for which that credit is given. This practice is allowed in Anne Arundel County. For example, one of the two required mathematics credits may be earned by taking Business Mathematics in the business department. A science or mathematics credit may also be earned for related work in trades and industry programs.

Proficiency Requirement

A proficiency requirement mandates that a student must demonstrate competency with an identified set of basic educational objectives in order to receive a diploma. Usually students must achieve a given score on a standardized examination especially written to evaluate attainment of the proficiency objectives. Project Basic, developed by the Maryland State Department of Education, marked the beginning of proficiency requirements in the state of Maryland. Project Basic was a response to mandates from the public that there be some mechanism to ensure that graduates have attained at least some identified level of proficiency with basic skills. The five areas addressed by Project Basic are: basic skills, the world of work, the work of leisure time, citizenship, and survival skills.

Under Project Basic a functional reading test has been developed and mandated to be taken by all students graduating from Maryland public schools in 1982 and thereafter. A score of 80% or better is required to graduate. The test is to be first administered in the ninth grade. Students failing to score 80% or better must be placed in remedial classes until they pass the test, which will be given in the tenth, eleventh and twelfth grades.

Similar functional tests in mathematics and writing have been piloted. An instrument for assessing student performance in the last of the five areas mentioned above — survival skills — was piloted during the 1979-80 school year. However, no other test, except functional reading, has been designated at this time as a graduation requirement.

Time Allotments

While clock hours are specified as a prerequisite for earning credits in high school, the State Department of Education does not formally place such clock hour requirements on elementary or middle school courses as a requirement for successful completion. The local board of education, however, has studied the matter of instructional time at these levels and has published a suggested time allotment for all subject areas in grades 1-8. The suggested weekly time allotments are shown in Table 2 (for the primary grades) and Table 3 (for the intermediate grades). These models, however, are not being followed consistently at the elementary level.

Table 2
Suggested Time Allotments: Primary Grades

Instructional Area		Minutes per Week
Language Arts		740
Reading	450	
Handwriting	80	
Writing/Composition	80	
Spelling	80	
Literature	50	
Mathematics		175
Science		140
Social Studies		120
Music		60
Art		60
Physical Education		60
	Total	1,355

Table 3
Suggested Time Allotments: Intermediate Grades

Instructional Area		Minutes per Week
Language Arts		600
Reading	300	
Writing/Composition	120	
Spelling	80	
Handwriting	40	
Literature	60	
Mathematics		195
Science		195
Social Studies		195
Music*		60
Art		60
Physical Education		60
	Total	1,365

*In addition to general music, students in grade three may begin strings instruction, scheduled for two 45-minute periods per week or starting in grade four, students may choose to take instrumental and/or choral instruction in addition to general music. Instrumental music is recommended for two 45-minute per week periods; choral music for two 30-minute periods per week.

Instructional periods in the county's middle/junior high schools are the same length for all subject areas: 45 to 50 minutes each. The amount of time devoted to a given subject is therefore controlled by the number of times classes in that subject are scheduled each week.

Table 4 below presents the current Middle School Scheduling Model. This model is not being followed, however, by all middle/junior high schools in Anne Arundel County. The 12-week programs in art, home economics and industrial arts, for example, have not been implemented in all schools, and some schools offer music and physical education on a daily basis, rather than in an alternate day pattern as shown in the model.

Table 4
Middle School Scheduling Model

Instructional Area	Scheduling
Language Arts	daily
Mathematics	daily
Unified Science	daily
Social Studies	daily
Art	daily for 12 weeks
Home Economics	daily for 12 weeks
Industrial Arts	daily for 12 weeks
Music	every other day
Physical Education	every other day
Student options:	
Foreign Language or,	every other day
Instrumental Music	every other day

Conflicts created by this scheduling model appear at immediate glance. The middle/junior high school day is a 6-period day as presently organized. Yet the subjects offered would require, if all options are to remain open, no less than 7 periods.

At the middle/junior high school level, students take two of three of the following courses each year: music, physical education, foreign language. The classes are scheduled on alternate days. The middle school program recommends that students take music and physical education. In practice, students are relatively free to select any two courses. Students taking music select general (exploratory) music, chorus, instrumental music, keyboard, or guitar. With the selection of two of three courses every year, it is possible that students may not have exposure to one of these subjects in their entire middle/junior high school experience.

7-Period Day

At present all secondary school class schedules (middle, junior and senior) are established around a six-period day, plus lunch. Movement to a 7-period day would facilitate the taking of more elective courses by students, and would allow full implementation of the scheduling model for middle/junior high schools shown above.

While it is quite true that, in senior high school, the present 6-period day allows students to not only take their 12 required courses, but 12 elective courses as well during a normal four-year high school "career"; as a practical matter it is not always possible to take this many electives. The first three years of high school are filled with required courses, allowing the taking of only one or two electives. The remaining electives must, therefore, be taken in the final two or three semesters of high school. This is because the 6-period day simply does not provide ample opportunity to take both required and elective courses in the early years. Only after the required courses are completed is schedule time available for elective subjects. Movement to the 7-period day would provide the additional time needed by students if they wish to spread their electives over the entire four year high school stay.

Scheduling of Classes

In addition to the 7-period day, the committee has looked at other ways class schedules could be made more flexible in order to facilitate instruction and learning.

In this regard, the practice of flexible scheduling has been undertaken by many school systems. Many classes, by the nature of the subject matter, need more time. Such is the case, for instance, in certain science lab periods, when much time may be needed for experimentation. Music and art are other examples where real learning and practicing may only just begin to occur as the class period moves rapidly toward conclusion.

Flexible scheduling allows for the "doubling up" of such class periods on given days or at specific times. Science labs could be twice as long. Music and art sessions could be extended.

Turning to Specific Subject Areas

Throughout this section, the examination of graduation requirements and time allotments has been somewhat generalized in nature. The committee, however, encountered the issues raised here in rather specific form as it looked into individual program areas. The present status of this overriding issue, as it relates to specific subject areas, follows.

Mathematics — Time allotted to mathematics at the secondary level ranges between 45 and 50 minutes each day. The county follows state guidelines requiring two credits in mathematics for graduation. A survey of the senior class of 1979 revealed that approximately 44% earned two math credits, 7% earned 2.5, 24% earned three, 5% earned 3.5, 16% earned four, and 3% earned more than four credits in this subject.

Science — The time actually spent in science instruction at the elementary level differs considerable from the suggested allotment. According to a survey of county teachers, fully one quarter of those instructors in the primary grades who responded said they devote less than 28 minutes daily to science, and nearly 30% of the respondents said they devote less than the suggested 39 minutes at the intermediate level. (The survey was undertaken at the request of the planning committee by the Department of Pupil and Program Evaluation in the 1979-80 school year. Two hundred elementary teachers were selected at random and asked to participate, with 93 responding — 69 of whom teach science in their schools.)

In addition to the above finding, the survey also showed that more than half of the science teachers said they do not teach science every day. Of those, 21% said they teach science twice per week, 25% said they teach it three times per week, and 18% reported teaching science four times per week. Ninety percent of the teachers responding said they felt the amount of time now allotted to science should remain the same.

At the secondary level, time allotted to science instruction averages 50 minutes per day. The county follows State guidelines in requiring two credits in science for graduation. A survey of the senior class of 1979 revealed that 46% ended their formal science education with the required two credits, 8% completed 2.5 , 21% earned three credits, 4% completed 3.5 credits, 15% earned four credits and 6% earned more than four credits.

Foreign Language — There is presently no graduation requirement in foreign language in Maryland or Anne Arundel County. There has been an increase in the number of students enrolled in two languages. At the secondary level, approximately 30% of the students are enrolled in a foreign language.

Art - There is presently no graduation requirement in art education.

Music - There is presently no graduation requirement in music education.

Looking At The Research

Graduation requirements have been mandated by most states (46 as of 1974). Credit requirements range from 15 credits to 23 credits.

Minimum Competency Testing

As of February 1, 1980, 37 states were found to have developed minimum competency testing programs. Of these, 18 have either required, or are planning to require, satisfactory scores on such tests as a prerequisite to high school graduation. The remaining 19 states use the tests for diagnostic and remedial purposes and, in a few instances, for early graduation vehicles or as a means to place accurate competency notations on graduation certificates.

The minimum competency movement has gained momentum based on a variety of widely accepted rationale, among which are: public dissatisfaction with the value of a high school diploma; the need to critically assess educational goals; and the establishment of the need to address in public schools survival skills before focusing on self esteem or self actualization.

Minimum competency testing is an outgrowth of the back-to-basics movement, which seeks to guarantee a specified level of proficiency for every high school graduate. Research shows that those who support the movement see the following benefits: acquisition of better reading and computational skills by students; restoration of teacher authority in the classroom; and implementation of more individualized instruction as needed to accommodate remedial teaching requirements — which often demand one-to-one interaction between instructor and student.

There has been a great deal written on this subject, with the body of research also showing some strong sentiment in opposition to minimum competency testing.

Those opposed list these disadvantages: interference in local school affairs, with total control of education eventually going to the state; expansion of testing, and of the practice of "teaching to the test"; over emphasis on minimum standards stressing mechanical skills of communication and computation which could hamper free, inventive, productive thinking; creation of further curriculum imbalance; and, the increased use of the practice of retaining students in the same grade from one year to the next for failure to achieve at specified levels, despite evidence which shows such practice to have no beneficial effect.

Differentiated Diplomas

The problem with establishing stringent and inflexible graduation requirements is that unless they apply to the broadest range of students, a great many pupils might never be able to meet the graduation prerequisites. Keeping standards at a level which allows for the most number of students to meet the requirements, on the other hand, works to defeat the purpose of the requirements themselves in some cases. Thus, as state and local educational agencies grapple with graduation requirements, the desire to assure that a reasonable percentage of students receive a diploma, while maintaining the diploma's value and integrity, has become a major hurdle.

Researching how the problem is being approached across the nation, the concept of the so-called "differentiated diploma" has been encountered time and time again. Indeed, the idea is not new to Maryland, where the idea of varying graduation certificates has been utilized in the past.

A model for certification has been developed by the National Association of Secondary School Principals. Under the certification arrangement endorsed by NASSP, a standard diploma would be given to all students meeting credit, proficiency, and enrollment requirements. The standard diploma would contain an endorsement for academic or vocational achievement depending upon the specified credit requirements which the student has met. A certificate of basic competencies could be granted to the student who fails to meet credit requirements for a standard diploma, but who nonetheless has been able to pass a minimum competency test. Finally, a certificate of attendance could be used when the student fails to meet either the credit or the proficiency requirements.

While this idea has been discussed in Maryland, the state at the present time grants one graduation certificate to all students: a standard diploma, without endorsements. Some local school systems in Maryland, however, are awarding certificates in addition to this diploma. The purpose of these certificates is to more clearly indicate the student's program and achievement. Some school systems simply print a copy of the student's transcript on the back of the diploma. Anne Arundel County at the present time follows neither course.

Maryland Compared to the Nation

Maryland's three criteria for graduation — enrollment, credit, and proficiency — are in line with recommendations of a task force on graduation requirements contained in a 1975 report of the National Association of Secondary School Principals (NASSP).

That report said that criteria for a high school diploma should include competency measures in functional literacy, computation, history, culture and government of the United States. In addition, the diploma should be backed by units or credits equal to a

regular student course load through the first semester of the senior year. Also, as in Maryland, the report said that sufficient attendance in courses and programs should be required to earn credits or units.

The NASSP task force also recommended that competencies be demonstrated using materials from health and safety, work situations, personal business and citizenship.

Specific Program Areas

With regard to specific program areas of concern to the Ten-Year Planning Committee, the research produced the following findings:

Mathematics

* As time allotted to mathematics instruction is increased, student achievement rises.

* Few school districts have established guidelines which specify the amount of time to be allocated daily to mathematics instruction in the elementary grades, and few school districts require more than one year of secondary mathematics in order to graduate.

* Entrance into many college programs requires three or four years of high school mathematics.

* Requirements of the job market have changed markedly as a result of technological advances, requiring students to acquire additional mathematics skills in order to remain competitive, and requiring school systems to develop more comprehensive programs in mathematics, devoting greater amounts of time to its instruction than presently allocated.

Science

* Approximately 25% of the states and 40% of the districts set guidelines for the minimum amount of science instructional time in one or more of the elementary grades.

* The average number of minutes recommended or required increases with grade level (as does the percent of districts with guidelines for science instruction).

* In each of the grades 1-6, the average amount of time recommended for mathematics is significantly greater than the amount recommended for science.

* The average number of minutes per day spent teaching each subject as approximated by teachers of grades K-3 nationally is: science-17, social studies-21, mathematics-41, and reading-95.

* The average number of minutes per day spent teaching each subject as approximated by teachers of grades 4-6 nationally is: science-28, social studies-34, mathematics-51, and reading-66.

* The majority of states require only one year or less of science for graduation from high school.

* About 50% of the nation's secondary school students currently complete their last course in science in grade 10.

In addition, information was gathered from three separate National Assessments of Educational Progress undertaken by the Educational Commission of the States in 1969-70, 1972-73, and 1976-77. This research produced the following findings:

* Seventeen year olds declined in performance from the first to the second National Assessment of Educational Progress and from the second to the third assessment. Their performance declined on both biological and physical science exercises, but the decline was greater in the physical sciences.

* The downward trend in science achievement observed from the first to the second National Assessment of Educational Progress of nine and 13 year olds appears to be lessening according to the third assessment. For these two age groups, it appears that a continued decline in achievement in physical science is accompanied by some stability in achievement in biological science.

Foreign Language

* There has been a marked increase in public recognition that foreign languages are an important aspect of the total school curriculum. In a nationwide survey, 47% of the respondents favored a foreign language requirement for graduation from high school.

* Eight percent of the nation's colleges and universities have a foreign language admissions requirement. There are indications, however, that more colleges and universities are requiring foreign language for admission.

* There is increasing public support of the concept that students should be given the opportunity to learn a widely used foreign language and that they should be encouraged to take a foreign language.

* The President's Commission on Foreign Language and International Studies (1979) said that "Americans'

incompetence in foreign languages is nothing short of scandalous."

* The representative assembly of the Teachers' Association of Baltimore County (TABCO) unanimously agreed to ask the Maryland State Board of Education to consider adding a basic foreign language requirement to the State prerequisites for graduation.

Art

* The common assumption that artistic development of students suggests a trailing off or reversal of student achievement with the beginning of the teenage years is not supported by data. Assessment results show a steady progression of achievement from age 9 through age 17.

* Art provides ways of knowing about the world and can influence personal discipline and motivation.

* The fundamental goals of American education can be realized only when the arts become central to the individual's learning experience at every stage of life.

* Our society is becoming increasingly mechanized, technological and impersonal, and the need for the humanizing effects of the arts is apparent.

* Educators at all levels must adopt art as a basic component of the curriculum deserving the same status as all other elements.

Music

* Traditionally, in the United States, the arts have been taught as a separate discipline, subordinate to other school subjects. Current reorientation and reappraisal endorse the concept that music and the arts are basic to learning.

* The impact of a music curriculum on a person's life may be as great as that of any other curriculum area.

* Early childhood is the most critical period for learning fundamental concepts and skills in music.

* Potential for musical growth declines with age.

* Children who learn to enjoy music during early childhood make an important beginning toward acquiring an enduring source of personal pleasure.

- Music can serve as a methodological tool in teaching children academic skills such as reading, language arts, and mathematics.

- By age 13, children have as clear a grasp of many musical concepts as do adults.

Conclusions

Graduation requirements are essentially a reflection of what students are expected to learn before they graduate. Embodied in the requirements, therefore, must be some means of assuring that proper content is presented. Additionally, local curricula must be examined thoroughly to determine appropriate credit requirements.

Some other things are clear as well. As the amount of leisure time increases, so does the need to educate students on how to use it effectively. As we move from an industrial age to a more services-oriented society, students must be prepared to meet the new needs of a changing and evolving job market. Finally, as the world's base of knowledge expands, the need to provide the skills and motivation needed by students to be lifetime learners becomes increasingly important.

An increase in the time allotted to instruction in any area is usually followed by an increase in student achievement in that area. If the wish, therefore, is to improve student performance in certain academic subjects, increasing the time spent on teaching those specific subjects is an obvious and viable method of achieving that end.

Recommendation

- The Committee recommends that the Anne Arundel County Board of Education exercise its option to increase, from the current State minimum of 12 to a new minimum of 14, the number of credits which must be earned in specific content areas from among the total of 20 credits required for graduation. One credit each would be required from these areas: Mathematics or Science; Art, Music or Foreign Language.

To achieve this recommendation, the Committee proposes:

Mathematics

Mathematics curricula to implement increased time allotments in the elementary grades and the new mathematics/science credit requirement must exemplify a comprehensive program which enables the study of areas often omitted or given inadequate emphasis, such as probability and statistics, computer literacy, applications of mathematics to real-life

situations, reasonableness of results, estimation and approximation, and, most importantly, problem solving.

Students opting for a third credit in mathematics to fulfill the mathematics/science requirement will be encouraged to select courses from among the academic offerings. For students choosing to remain in the unified mathematics program, appropriate curricula for a third year of study in the program must be identified.

Science

Curricula for different abilities and interests must be available.

Course selection should be based upon needs and interests of students, as well as the ability to meet the prerequisites.

Foreign Language

The present curriculum would need little modification to meet the needs of all students. The academically oriented students can fulfill the graduation requirement through the sequential offerings in French, Spanish, German and Latin. The functional language courses in French, Spanish and German will meet the needs of other students.

Music

Opportunities are provided for students to sing, play instruments, listen to, compose, and interpret music at various levels of skills appropriate to their capabilities.

Art

The art curriculum can provide an environment wherein students and teachers can experience their own artistic development and appreciate the artistic products of others. Artistically gifted students can fulfill the one-credit requirement by applying skills while making art objects. All students can extend or develop a knowledge of the important role of art in the history of man. Although the present curriculum allows for skill development in both these areas, the increased emphasis on the arts will require an expansion of the theory courses.

Related Work Credit

Prior to adoption of this new credit requirement, all curricular areas now allowing out-of-course credit for related work should be reviewed to determine whether such out-of- course credit should continue to be granted. Such credit will not be granted where it is determined that content in the credit-area is insufficient to warrant the granting of a credit unit towards graduation.

* The Committee recommends that instructional time at the primary and intermediate levels be required according to the allotments outlined in the tables which follow and that total instructional time in elementary schools be increased by 15 minutes daily.

RECOMMENDED SUBJECT AREA TIME ALLOTMENTS: Primary Grades

Changes from current practice listed; n/c = no change

Instructional Area	Minutes per Week	Minutes Increased
Language Arts (must be offered daily)	740	n/c
Reading	450	n/c
Handwriting	80	n/c
Writing/Composition	80	n/c
Spelling	80	n/c
Literature	50	n/c
Mathematics (must be offered daily)	200	+25
Science (must be offered daily)	165	+25
Social Studies (must be offered daily)	145	+25
Music (alternate days - 30 minutes)	75	+15
Art (once per week)	60	n/c
Physical Education (alternate days -30 minutes)	75	+15
Health (new course of study - once per week)	30	+30
TOTAL INSTRUCTION MINUTES PER WEEK:	1490	+135
TOTAL NON-INSTRUCTIONAL MINUTES PER WEEK:	385 [77 min. daily for: lunch/recess (40 min.) opening/closing activities and transitions between classes (37 min.)]	-60
TOTAL MINUTES PER WEEK:	1875	+75

RECOMMENDED SUBJECT AREA TIME ALLOTMENTS: Intermediate Grades

Changes from current practice listed; n/c = no change

Instructional Area	Minutes per Week	Minutes Increased
Language Arts (must be offered daily)	600	n/c
Reading	300	n/c
Handwriting	120	n/c
Writing/Composition	80	n/c
Spelling	40	n/c
Literature	60	n/c
Mathematics (must be offered daily)	245	+50
Science (must be offered daily)	220	+25
Social Studies (must be offered daily)	195	n/c
Music (alternate days - 30 minutes)*	75	+15
Art (once per week)	60	n/c
Physical Education (alternate days - 30 minutes)	75	+15
Health (new course of study)**	30	+30
TOTAL INSTRUCTIONAL MINUTES PER WEEK:	1500 (25 hrs.)	+135
TOTAL NON-INSTRUCTIONAL MINUTES PER WEEK:	375 [75 min. daily for: lunch/recess (40 min.) opening/closing activities and transitions between classes (35 min.)]	-60
TOTAL MINUTES PER WEEK:	1875	+75

*Students wishing to take additional music classes would be given a choice of either chorus or instrumental music, but would not take both.

**The addition of Health to the curriculum for all students grades 1-8 has been recommended elsewhere in this plan.

* The Committee recommends that all middle/junior high schools institute a 7-period day, thus permitting full utilization of the scheduling model which has been designed by the school system.

* The Committee recommends that all senior high schools institute a 7-period day, thus permitting pupils to take a wider range of elective courses and still meet regular course requirements for graduation.

* The Committee recommends that flexible scheduling be adopted as a regular scheduling practice.

* The Committee recommends that the county Board of Education endorse the concept of differentiated diplomas in Maryland and seek adoption of this concept through State Department of Education channels.

OVERRIDING ISSUE #2: Staff Development

Discussion Of The Topic

No staff within any organization can remain static in terms of methodology or approach if that organization is to remain capable of meeting the changing needs of those it hopes to serve. Few organizations face changing needs of greater impact or of a more profound nature than educational institutions or systems. The process by which organizations train and/or upgrade the skills of employees is known by differing names. Within the Anne Arundel County Public School System that process is embodied in a program titled Staff Development.

Types Of Training Offered

The program is concerned with both preservice and inservice training, the former received prior to assuming a given job within the school system, the latter received while holding a given job. These two types of training are offered through countywide workshops, school-based activities, and college courses. The program serves a wide range of personnel, including teachers, administrators, secretaries, custodians and support personnel at all levels.

During the 1979-80 school year, the Office of Staff Development placed approximately 90 college seniors within the school system for student teaching, 50 undergraduate students for the purpose of field observations, and 12 graduate students for practicum experiences.

Staffing And Budget

A coordinator and one teacher specialist coordinate the planning and implementation of all staff development activities in Anne Arundel County's school system. The staff development budget for the 1980-81 school year of $197,000 was approved by the Board of Education. This figure was reduced to $149,000 by the County Council, however, resulting in a decline in the fiscal allocation for this program from 1979-80 levels. This allocation represents approximately .1% of the total operating budget of the school system.

The staff development budget is utilized in several ways. The Office of Staff Development is allotted a sum to offer workshops and other activities of a broad or general nature which might apply to a variety of teachers or programs. Program coordinators within the school system are also allotted a sum to meet specific program needs. Finally, individual schools are given money to provide local inservice programs.

Workshops And Certification

Many teachers take in-service credit workshops offered by the county to meet certification requirements. The Maryland State Department of Education requires that all teachers

secure an advanced professional certificate (APC) by obtaining a Master's Degree or Master's Equivalency within 10 years of being issued the Standard Professional Certificate. The Master's Equivalency is an approved 30 credit graduate program consisting of not more than 15 workshop credits.

The Problem Of Time

In addition to county workshops and college courses, staff development is provided for teachers through school-based activities as noted earlier. The extent of these activities varies, however, and appears dependent upon the principal's attitude toward inservice. Department chairpersons may influence the staff development that occurs at the secondary level. Where possible, central office staff assist with school-based inservice if requested to do so by the principal.

Time for participation in these activities is frequently a problem. Teachers are contracted to work 190 days per year, with 180 spent on activities directly involving students in the classroom. The Board approved calendar schedules the remaining 10 days to the tasks of beginning and ending the school year, holding parent/teacher conferences at the elementary and middle schools, and scheduling and/or inservice at the secondary level. Of these 10 days, program coordinators are allotted one-half day to work with secondary teachers and teachers of special subjects at the elementary level. School-based inservice is provided for staff who do not attend the meetings with program coordinators.

In addition, on parent conference days at the elementary and middle school level, staff development for special subject teachers is provided by program coordinators. Department chairpersons, during the course of the year, generally spend one or two days working with program coordinators.

Occasionally, staff development programs or activities concerning specific topics are offered for teachers who are given release time through the use of substitutes. Most of this type of inservice is funded through federal projects such as Title I. Because of the growing concern about students being taught too frequently by substitute teachers, however, this approach has been used less often in recent years.

Responsibility For Content

The content of most workshops, seminars and staff development conferences and programs is the responsibility of the program coordinators, with the Office of Staff Development handling logistics such as scheduling, notification, registration, location and other coordinating activities.

Training Incentives

Roughly 10% of the teaching staff, or approximately 400 persons, enroll in workshops each term. The incentive for teachers to continue taking workshops diminishes, however, after

the advanced professional certificate has been obtained. Approximately two-thirds of the present teaching staff and all of the administrators currently hold an APC and are, therefore, not required to take additional coursework for certificate renewal. In 1979-80, 107 county workshops were offered; 27 of them were cancelled because of insufficient enrollment. In addition to the credit workshops, certain content-related workshops which are critical for successful program implementation are offered by program coordinators and schools for a stipend ($20 per day).

Who Does The Training

Workshops are generally conducted by personnel within the system. Qualifications include a Master's Degree or Equivalency, holding tenure, and demonstrated proficiency in the subject area being taught. Unit I employees are paid $8.40 per hour for teaching a workshop; all other employees undertake the instruction as part of their regular jobs. In addition to school system personnel, outside consultants are also used for inservice activities.

The Kindergarten Demonstration Center

A demonstration center for kindergarten staff development, partially funded by the state, will begin its fourth year of operation at Richard Henry Lee Elementary School in September, 1980. Nearly 350 staff members have been trained at the center thus far. Advantages of the demonstration center as a vehicle for staff development include: provisions for input by teachers, release time for participating staff, use of itinerant teams for substitutes, use of learning activities that encourage active participation, use of immediate and follow-up evaluation techniques, and a second visit by the itinerant team to aid in implementation of objectives.

College Courses Offered

In addition to locally developed programs, the Office of Staff Development seeks to make college courses more readily available to teachers. As a result of its efforts, Loyola College, Towson State University, the University of Maryland and Bowie State College currently offer courses in the county. Also, some college courses are available free of charge to staff working at the University of Maryland Teacher Education Centers located at the Old Mill Education Complex and Arundel Middle and Senior High Schools.

Teacher Input Lacking

Even with the obvious strides which have been made in staff development activities in recent years, it is a fact that no systematic method exists for gaining input from teachers about their needs and desires for inservice. In most cases, teachers are asked to evaluate the workshops they have just completed, but follow-up evaluations to determine whether the various objectives have, in fact, been implemented in the classroom rarely occur.

Assisting Support Personnel

The Office of Staff Development provides inservice for support personnel as well as teachers. In order to address the specific inservice needs of instructional aides, four planned programs will be available for them beginning in June, 1980: 1) a 30-credit program offered at Anne Arundel Community College as a joint venture with the county staff development department; 2) 30 credits of county workshops planned specifically for aides; 3) the Portfolio Plan which grants credit for work experience; and 4) the College Level Exam Program (CLEP) which grants credit by examination. (The latter two are available through Bowie State College.) While no additional education past a high school diploma is required of aides, they are eligible for an increment on their salaries after obtaining 30 workshop or college credits.

Inservice training for 500 secretaries will be provided in August, 1980, in a one-day required workshop which was developed as a result of a survey to assess their needs. One-half of the day will be devoted to updating office procedures; the remaining time will be spent in either stress management techniques or human relations skills as selected by the participants. College courses in finance and business education will be available for secretaries during the 1980-81 school year.

Preservice training for newly employed custodians will be required as of September, 1980. Sixteen hours of instruction will be provided during two working days. This training is being coordinated by the Office of Staff Development and will utilize county maintenance personnel as instructors.

Plans are also being developed to provide inservice programs for bus drivers and additional school system support personnel for the 1980-81 school year.

Training For Administrators

Inservice training is not presently required for administrators. In the past, there have been few workshop offerings designed specifically for administrators. However, during 1979-80, a 12-hour workshop on stress management and intervention techniques was held for school-based administrators on a voluntary basis. Fifty-eight administrators participated. In November, 1980, these participants will meet to evaluate the effectiveness of that workshop and to plan for future inservice.

ESAA Project Shifting Focus

The Emergency School Aid Act (ESAA) is shifting focus from remedial assistance for students to inservice training for teachers. A county project with two separate components has been funded by ESAA to begin in September, 1980. One component will employ eight staff development resource teachers to work in the major content areas; the other component will employ three teacher specialists for student concerns.

Approximately 60% of those teaching today will still be in the classroom 10 years from now. An increasing number of teachers are acquiring advanced degrees at an earlier age, meaning that no further education is required of them at a point relatively early in their careers. This, in turn, reduces motivation to enter inservice training workshops, as these teachers are already fully certificated.

Gains in student achievement are directly related to the recency of their teacher's last educational experience. Student achievement rises when the teacher continues to learn.

Successful inservice programs require a strong commitment from the principal.

Because teachers' abilities and needs are not the same, staff development must, therefore, provide differentiated training experiences. There has been too much emphasis in the past on teachers' deficiencies, while overlooking their strengths, interests and desires.

Teachers want relevant inservice programs that relate theory and application in a practical way. There is both resentment and rejection of staff inservice activities developed without, instead of with, teachers. Transfer of learning to the classroom is more likely to occur when the objectives of inservice programs coincide with immediate teaching needs.

Inservice programs which place the teacher in an active, rather than a passive, role and which provide opportunities for practicing techniques are more likely to accomplish their objectives.

One-day inservice programs have proven to be the least effective or successful, largely because they generally lack sufficient intensity to create an impact or provide for carry over into the classroom.

Conducting inservice programs after regular school hours is often unproductive as this is when teachers are often at their lowest energy level and reflect the least tolerance toward accepting new ideas. Removing the teacher from the class when it is in session and replacing that teacher with a substitute is not seen as desirable because the presence of the regular teacher is directly responsible for higher student achievement. For these reasons, every effort should be made to hold inservice activities on days when classes are not in session.

Staff improvement programs must offer incentives to encourage maximum participation by teachers. Offering a stipend is not effective.

Evaluation of inservice programs is essential to ensure that objectives are implemented in the classroom.

Recommendation

* The Committee recommends that the present staff development program be expanded to encompass those requirements outlined in the separate components of the Ten-Year Educational Plan, including activities that will increase the skills, attitudes, and knowledge of all instructional, administrative, and support personnel.

To achieve this recommendation, the committee proposes:

Involvement of teachers in planning, conducting and evaluating staff development programs.

Increasing the number of school system staff members in the teaching of inservice courses.

Development of an incentive system that includes a number of options:

- o *Early release of teachers -- after the close of the regular school year for students but prior to the end of teachers' 190-day contract -- as compensation for participation in workshops during the year.*
- o *Increase the stipend awarded for non-credit workshops.*
- o *Increase the number of workshop credits that can be used for receiving salary increments.*

Establishment of additional teacher training centers modeled after the Kindergarten Demonstration Center.

Establishment of resource centers for each program area. Increasing staff work days under their contract beyond the 190 now required.

Increasing the staff and the budget of the Office of Staff Development to implement the recommendations contained throughout this ten-year plan.

OVERRIDING ISSUE #3: Staffing

Discussion Of The Topic

It is said that an organization is only as good as its staff, and to a great extent that is true. A more precise statement, however, might be that an organization is only as good as the use of its staff. That is, utilization of staff is every bit as important as acquisition of staff members of high credential.

The Traditional Pattern In Elementary Schools

Traditionally, since the days of the "one room schoolhouse," the staffing pattern within the elementary school was very simple: all teachers taught all subjects. Indeed, in many elementary schools in Anne Arundel County today, this staffing utilization appears. Teachers at each grade level undertake instruction in each of the four major subject areas -- language arts, mathematics, social studies and science. Special subjects, such as art, music and physical education, are taught by instructors who teach nothing else.

Problems With Traditional Pattern

The highly technical nature of today's curricula makes it difficult to expect an individual teacher to acquire sufficient background and expertise in all of the four major subject areas to provide the highest level of instruction. The move toward greater accountability has, in addition, created a renewed desire to offer the best learning opportunities for students. Finally, the rigorous planning required of teachers to meet the increasingly precise goals and objectives of the total instructional program makes it extremely difficult for a single teacher to produce stimulating, interesting, effective lessons in all of the four major subject areas on a regular basis.

Departmentalization At The Elementary Level

To remedy these problems, some elementary schools have chosen to use the alternative staffing pattern of departmentalization. Departmentalization is a method of assigning teaching responsibilities so that no teacher teaches all four major subjects. Judgments regarding who teaches what are based on teacher training, background, and ability, as well as the needs of the student population.

Examples Of Elementary Departmentalization

One type of departmentalization presently being used in the county is that in which every teacher at every grade level teaches language arts and one other subject. Thus, some

teachers may offer instruction in language arts and math, some in language arts and social studies, and some in language arts and science.

In schools with smaller populations particularly, a second alternative pattern has emerged. Where only two teachers are required at any given grade level, the pattern may be for one teacher to instruct in language arts and social studies, and for the second to offer instruction in mathematics and science. Still another staffing pattern exists in which all teachers offer instruction in language arts, math and one of the remaining two major subject areas, but not in all four.

Use Of Elementary Departmentalization In Anne Arundel County

About 50% of the elementary schcols in Anne Arundel County currently utilize some form of departmentalization. The remaining schools continue to operate according to the standard pattern, i.e., one teacher teaches everything.

Staffing Ratios

With regard to staffing ratios, the Elementary School Staffing Study Committee in October, 1977, submitted, at the request of the Board of Education, a detailed report examining trends and practices on a national and state level and making recommendations. Steps have been taken in the intervening years to implement the following instructional recommendations of this committee:

- o Assign kindergarten teachers on the basis of one for every 20 pupils. (The ratio in 1979-80 was decreased to 22:1.)
- o Assign one teacher for each 25 pupils enrolled in grades one to three. (Implemented in grades one and two; grade three staffing included in 1980-81 budget, but cut by the County Council and remains a 29:1 ratio.)
- o Assign one teacher for every 29 pupils enrolled in grades four to six. (Implemented.)

Teachers Of Special Subjects

As mentioned earlier, special subjects are taught by teachers assigned to those areas only. At present, all elementary schools in the county have the services of at least one art teacher, physical education teacher, general music teacher and instrumental music teacher.

Twenty-four elementary schools share the services of a media specialist. Ten schools have a part-time media specialist, working half days, while two schools have no media specialist. (Services in these two schools are provided by aides.)

Reading Personnel

Reading specialists serve elementary schools on either a full or part-time basis. Twenty-one schools did not have the services of a reading specialist during the 1979-80 school year; the 1980-81 budget, however, provides all elementary schools with such personnel.

The Reading Improvement Support Team, comprised of three teachers, provides reading assistance as requested on a countywide basis. For the school year 1980-81, the team will concentrate on providing services to secondary schools. Two additional teachers for the team were requested to allow the team to expand its services and to permit more intensive follow-up services. This request was not funded in the 1980-81 budget.

Mathematics Personnel

Seven mathematics specialists, working under Title I, provide resource assistance to selected elementary and junior/middle schools. Five of these teachers serve 20 elementary schools -- 18 public and two private, while two specialists work at three junior/middle schools. There are no mathematics specialists serving county senior high schools in a resource capacity.

Science Personnel

During the years 1973-1976, eight teachers served in a resource capacity to all of the science teachers, K-12. Budget restrictions eliminated these positions and at present, the only support services provided are by the coordinator of science.

Staffing Middle and Junior High Schools

Teachers are allotted to middle and junior high schools on the basis of one teacher for every 21.5 students enrolled in the school. The following staff positions are excluded from this staffing ratio:

Media Specialists
Media Aides
Special Education Teachers
Guidance Counselors
Administrators
Speech Therapists

Staffing Senior High Schools

Teachers are allotted to senior high schools on the basis of one teacher for every 22.5 of students enrolled. The following staff positions are excluded from this staffing ratio:

Media Specialists
Special Education Teachers
Guidance Counselors
Work Study Coordinators in Vocational Programs (Assigned on a half-time basis)
Administrators
Business Managers
Speech Therapists

Secondary Teacher Allotments

When teachers are allocated to schools on a per-pupil formula, rather than on the basis of program needs, it becomes difficult to offer any low-enrollment courses, such as remedial learning classes or specialized accelerated classes. The current practice of the school system is not to conduct classes in the secondary schools when the enrollment is less than 15 students. There are some exceptions to this practice, but it is generally the basis for determining the courses that will be cancelled. Teachers to handle low-enrollment classes, rather than being assigned based on program needs, must be taken from the overall school allotment which is achieved by simply applying a pupil-teacher ratio to the total population. This means that other classes will be larger than the recommended class size if small specialized courses are to be formed.

Administrators

For the 1979-80 school year, 13 assistant principals were assigned to the elementary schools as well as seven administrative trainees. These administrative personnel were assigned only to the larger elementary schools. However, two assistant principals are assigned to all but one middle school. All junior and senior high schools have two assistant principals except three large senior high schools with three assistant principals each. An additional administrator is allotted to schools with an enrollment of 1,500 students and one additional administrator when the enrollment reaches 2,000. There were 25 administrative trainees assigned to the secondary schools for the 1979-80 school year. Although an administrator/student staffing ratio has been implemented in the secondary schools, this ratio does not appear to be consistent with administrator/student staffing ratios in the elementary schools. Presently, no principals, assistant principals or administrative trainees are assigned classroom instructional duties on a regular basis.

Guidance Counselors

Guidance counselors existed in some elementary schools until the 1976-77 school year. At that time counselors at the elementary level were shifted to the secondary schools.

This year (1979-80), 13 additional counselors were requested for reinstitution of the elementary guidance program. Four were funded by the County Council.

At the secondary level, counselors are assigned to schools on the basis of a recommended ratio of 350 students per counselor. The countywide average was 370 in 1979-80. Due to unequal student population, however, the variance between counselor-student ratios is great -- ranging from 325 to one in some schools, to as high as 500 to one in others.

A Look At The Research

There has been no particular elementary school staffing model which has received total acceptance within the educational community. The problem of developing a model to fit all situations is complicated by factors that can affect the number and type of personnel a school system should employ.

School system staffing patterns are often determined by factors beyond the school system's control. Recent legislation and court decisions have determined that all staffing must be "balanced" districtwide by race of the employees and often sex of employees as well.

Demands on total school staffing frameworks have been imposed by legislative mandates created by special education stipulations.

Approximately 80% of the operating budgets of school systems arise from costs associated with staffing.

Many educators and the majority of the general public believe that quality education is linked to small class sizes.

To significantly increase student achievement, class size must be lowered to 15-20 students per teacher.

The Maryland State Board of Education bylaws state:

> "The classroom teacher is the key member of the professional staff, and the degree of teacher time which is available to students for instruction purposes is a major index of educational quality. In recognition of the fact that the appropriateness of a specific ratio of pupils to each classroom teacher may vary in relation to such factors as subject requirements, pupil characteristics, and school size, no prescriptive and detailed ratio is set fourth herein. In staffing schools with classroom teachers, however, school administrators should regard ratios ranging from one classroom teacher for each 28 pupils to one for each 25 pupils as the arrangement which will be approximated following assignment of all professional personnel in the local school system."
>
> Bylaw 13.03.01.03

The Elementary School Staffing Study Committee (Anne Arundel County, October, 1977) made the following administrative and instructional staffing recommendations that, generally speaking, have not been implemented on a countywide basis:

- Assign kindergarten teachers on the basis of one for each 20 pupils.

- Assign one teacher for each 25 pupils enrolled in grade three.
- Assign one assistant principal on a shared basis between two schools each with enrollments of 400 or fewer students.
- Assign a full-time assistant principal to each school with an enrollment of 401-800 pupils.
- Assign an additional assistant principal to schools with more than 800 pupils.
- Assign a full-time reading teacher to each school having an enrollment of more than 400 students.
- Assign one reading teacher on a shared basis between two schools, each with enrollments of 400 or fewer students.
- Assign reading teachers in addition to reading personnel provided by federal programs.
- Assign a full-time guidance counselor to each elementary school with an enrollment of 500 or more students.
- Assign guidance counselors on a shared basis between two schools, each with enrollments of less than 500 students.
- Assign a certified media specialist to each school of 10 or more classrooms and one paraprofessional to each school of 700 or more.
- Assign a certified media specialist and one paraprofessional as a team to serve two smaller schools.

Recommendation

* The Committee recommends that school-based instructional personnel allotments be made according to program needs, rather than be based on a ratio determined by the total school population. In contrast, it is recommended that administrative personnel be assigned on the basis of total school population.

Considering elementary school staffing, it is recommended that:

- *the recommendations of the elementary school staffing study of 1977 as listed herein concerning teachers, counselors, media specialists and administrators be fully implemented.*
- *schools adopt a departmentalized approach to instruction in grades 1-6.*
- *each school have the services of a specialist in mathematics to serve as a mathematics resource teacher, K-6.*

- *each school have the services of a specialist in science to serve as a science resource teacher, K-6.*

Considering secondary school staffing, it is recommended that:

- *teachers be provided for low-enrollment courses in a manner so as not to increase other class size.*
- *mathematics instructional resource assistance be provided to all secondary schools.*
- *a more equal distribution of responsibilities be established for secondary guidance counselors.*
- *two teaching positions be added to the reading improvement support team.*
- *all secondary school department chairperson positions as Board approved, be fully implemented with increased emphasis on instructional resource assistance. (See OVERRIDING ISSUE #8 - Department Chairpersons.)*
- *The administrator/pupil ratio that is currently practiced when staffing secondary schools, be maintained.*
- *The recommended counselor/pupil ratio of 350 to one be implemented. (See Program Specific Issues - Guidance.)*

OVERRIDING ISSUE #4: Extended Day Activities

Discussion Of The Topic

The extended day activities program includes those activities outside the regular school day which effectively extend instructional time by offering students an opportunity to continue their learning experiences through the function of clubs, organizations, music groups and other student school interactions for which the pupil is not given academic credit. Interscholastic sports, while a part of the extended day program, is not addressed in this paper, but is covered in a separate document. The extended day activities program, in accordance with the Anne Arundel County Board of Education Statement of Philosophy: Goals and Objectives (January 1978), has two major goals. These are 1) to develop individual skills and attitudes that will promote success in post-secondary education and in the world of work and, 2) to develop creative abilities and cultural interests for the wise and productive use of leisure time.

Program Equity

Anne Arundel County Public Schools have had an organized student activities program for many years. However, many persons had concerns about the equity of the program. In August 1979, the Board of Education approved the formation of The Study Committee for Non-Athletic Extracurricular Activities which submitted its final report to the Board in November 1979, addressing specific program concerns. These recommendations will be discussed later. Extended day activities at the elementary level usually consist of preparation of programs for special occasions. These activities are conducted by teachers on a volunteer basis as elementary schools receive no funding specifically designated for them.

An organized extended day activity program is offered at the middle/junior and senior high school level. These activities may be grouped into three major categories: (1) clubs and organizations, (2) competitions and contests sponsored by non-school organizations and (3) countywide festivals and conferences scheduled on an annual basis.

Clubs and Organizations

There are various types of clubs, including those related to specific program areas such as Industrial Arts Club, French Club, Future Business Leaders of America, Chemistry Club and Math Club. Special interests/hobby clubs such as Chess Club, Film Club, Clown Club and Aquarium Club are also included. In addition, a large portion of the club program includes activities requiring specific training such as the band, choral groups, drama groups and gymnastics. Additionally, there are also those organizations based on scholastic merit such as The National Honor Society and It's Academic. Class organizations and student government groups are also included in the category of clubs.

Competitions and Contests

The second category, competitions and contests, involves student participation in various activities sponsored and/or funded by outside organizations. Among these are the math competitions sponsored by the math department of the Anne Arundel Community College and the Anne Arundel County Science and Engineering Fair which is co-sponsored by the county and the Chamber of Commerce which provides the judges and the cash awards. Various contests at the state and national levels provide a source for student participation in extended day activities. The National French Contest, National School Traffic Safety Poster Contest, Achievement Awards in Writing, The Voice of Democracy and The National Leadership Conference are examples.

Festivals and Conferences

The third group of extended day activities includes countywide festivals and conferences held on an annual basis for students in various musical groups, in drama, in foreign languages, and in other subject areas. These activities are often culminating events and may be held during or outside the regular school day. The drama festival is held for senior high school students. The countywide music and foreign language festivals are held for students at all levels. Teachers work after school and on weekends to plan, prepare and set up exhibits, and are not reimbursed for their efforts in this respect.

Entrance Requirements

Generally, there are no entrance requirements for extended day activities except in those clubs whose state or national affiliation dictates guidelines for membership. There is no financial obligation to a student beyond the cost of projects for personal use. Occasionally, students are asked to participate in fund raising projects to defray the club's operating expenses.

Advisors

An advisor for each activity must be approved by the principal and must contract on an annual basis to serve in that capacity. During the 1979-80 school year, there were 559 advisors for extended day activities. The Study Committee for Non-Athletic Extracurricular Activities recommended that advisors be selected according to their interest, qualifications and experience.

Advisors are reimbursed for their work according to a salary scale recommended by the Study Committee for Non-Athletic Extracurricular Activities. The salary scale is based on a point system for which the criteria are extended hours, weekends, evenings and summer hours, career orientation, planning and preparation, transportation, competitiveness/exposure, financial responsibility, safety, equipment responsibility and knowledge and/or experience and skill required. Each criterion is assigned a point value, ranging from 1-10.

The Committee classified the range of clubs and organizations into specific groups according to the total point value assigned to each club or organization. For example, the total point value for the position of the marching band director is 63 points; for the chorus director in a middle or junior high school, 46 points; and for the junior class advisor in a senior high school, 22 points.

How Clubs Are Formed

Clubs are offered on the basis of interest at the school level. The principal approves the request for a club and submits the request to the Department of Instruction for final approval. Beginning in September, 1980, there will be a ban on clubs that present a serious degree of liability. Staff members will receive a list of approved and non-approved clubs.

Funding

On the topic of allocation of funds, a discrepancy has been noted in the financial support given by the school system to extended day programs in areas other than salaries. If the school system is to adopt a philosophy of equal education for all, it cannot say for example, that the student whose primary interest is sports shall have the benefit of greater financial support than the student whose primary interest is music. Thus, it is difficult to justify buying football uniforms for all team members, but granting no funds whatsoever for band uniforms, to say nothing of band transportation to all athletic contests. The school system can no longer expect band members to sell submarine sandwiches and conduct car washes on their own time in order to privately purchase band uniforms, while at the same time spending taxpayers' funds to purchase football jerseys.

Inequities exist from program to program in terms of the financial support received from the school system. This extends, in some cases, to staffing as well. Until recently, teachers who worked with students in some extended day activities received extra pay for extra duty, while those in other activity areas did not. There continue to exist a number of areas where teachers do not receive payment for their work in these activities, e.g., preparation for foreign language festivals and elementary school music productions.

The problem of limited funds appears inevitably to be raised as a defense when the matter of inequity is discussed. However, the solution to the problem of lack of sufficient funds for all activities cannot be the total elimination of funding support for one program in order to fully fund another.

Evaluation

There is no countywide evaluation of the goals and objectives or organized activities in the extended day program. However, the study committee's recommendation for a procedure for the evaluation of advisors, to be completed at the end of every school year by the advisor and the principal, was approved.

A Look At The Research

Students who have a high self-concept tend to participate in extracurricular activities.

Student activity programs are just as much a part of the school's curriculum as the formal courses, yet all too often these programs are not evaluated.

There are too few students developing the leadership skills needed for the future. Extended day activities create an opportunity for students to develop these skills and thus, should be encouraged.

Selection of sponsors for student activity programs should be of primary importance when providing student activity programs.

The National Association of Secondary School Principals (NASSP) publishes annually its Advisory List of National Contests and Activities. The list provides guidelines for educationally sound student activity programs. Among the guidelines:

- A contest or activity should be designed solely to benefit high school youth in educational, civic, social and ethical development.
- Contests should encourage students to work out contributions, solutions and creations by their own efforts.
- Programs must be open to all students.
- Programs should be held on non-school time.
- Scholarships are regarded as the most desirable type of award, and should be paid directly to the institution selected by the student.

NASSP does not encourage student participation in essay contests because these contests do little to promote good writing.

Art poster contests sponsored by organizations other than art groups are not included on the NASSP Advisory List. Art teachers have expressed their concern that an idea or a viewpoint was being promoted rather than art.

Recommendation

* <u>The Committee recommends that the extended day activities program be made available on a consistent basis to all students in all schools.</u>

To achieve this recommendation, the Committee proposes:

Offering extended day activities in all schools based primarily upon student interests.

Providing release time and/or reimbursement for teachers not under contract for sponsoring extended day activities to prepare for exhibits, festivals and large scale presentations.

Evaluation of the effectiveness of clubs and organizations.

Equalization, on a proportionate basis, of funding support for requirements other than salaries related to all extended day activities (e.g., MOI, uniforms, equipment and transportation).

OVERRIDING ISSUE #5: Administration

Discussion Of The Topic

The Anne Arundel County Public Schools in 1979-80 employed 110 principals, 77 assistant principals, 32 administrative trainees and 41 instructional support staff members in the central office. Profiles of these groups follow.

	Principals	Assistant Principals	Adminis. Trainees	Cent. Off. Instr. Supp.
Average Age	44.5	43.5	35.6	47
Male/Female	67/43	59/18	19/13	26/15
Minority/White	16/94	15/62	6/26	5/36
Average years of service in Anne Arundel County	16.9	12.3	11.2	15.3
Number Holding Masters*	76	62	21	18
Number Holding M+30	27	12	10	13
Number Holding Doctorate	7	3	1	10

*Or Equivalent

All persons in administration hold an Advanced Professional Certificate.

Training for Administrators

There has been no formal training program for potential administrators in Anne Arundel County since 1972-73. In that year, 11 persons were identified and invited to participate in such a program, receiving a number of varied experiences at the school and central office levels. The following year they were given permanent assignments in schools.

Currently, first year administrative trainees meet once a month with the assistant superintendent for instruction for inservice activities. All other learning experiences are acquired on-site at their permanent work assignments.

The Staffing Situation

An analysis of the present staff shows that 110 administrative positions could conceivably be vacated for retirement reasons alone in the next ten years. Using 55 as the age of retirement, 12 secondary principals, 40 elementary principals and one special education principal could retire with full benefits during this period, as well as 20 secondary assistant

principals, three elementary assistant principals, one special education assistant principal, five secondary trainees, one elementary trainee and 27 of the 41 central office instructional support staff members.

In addition to the large number of potential retirements from the central office staff over the next decade, the most critical area appears to be in the elementary school administrative category. There are only eight elementary assistant principals and seven elementary trainees under the age of 45 in the school system to replace the potential 40 principal retirees. At the secondary level, the situation is somewhat better. Nevertheless, in the next 10 years it is anticipated that greater demands will be placed on administrators in instruction. There is no comprehensive staff development program, either inservice or preservice, to meet this need.

A Look At The Research

A review of the research and literature indicates adequate attention has not been given to the identification, selection and training of persons to assume leadership roles in planning, developing, implementing and evaluating instructional programs in elementary and secondary schools in the United States.

Specifically, the findings indicate the principal is the most important individual in any school. The principal's leadership sets a tone in the school that affects the morale of students, staff and community. The principal is also the key individual in terms of student outcomes.

Criteria for the selection of principals are inadequate. Preservice training programs are also inadequate and do not meet the needs of school leadership responsibilities in a changing social environment.

Continuing professional development is critical to effective school programs, yet staff development programs are either non-existent or inadequate.

Training programs must focus on the external as well as the internal needs and pressures of instructional leaders. These programs are most effective when participants are involved in planning them and when they are conducted on days when school is not in session.

Support to the schools from the central office, delivered through a team approach, is vital to the effectiveness of any school system.

Research shows that most principals do not advance to other jobs.

Recommendation

* The Committee recommends establishment of a comprehensive preservice and inservice program for persons currently holding, or expected to hold, administrative/supervisory educational leadership positions in the county.

To achieve this recommendation, the Committee proposes:

Revision of criteria presently being used to identify administrators to meet future demands that will be placed upon administrators.

Establishing a requirement that candidates for administrative positions participate in the preservice program prior to assuming administrative responsibilities.

Establishing a requirement for persons currently holding administrative responsibilities to participate in approved inservice activities to ensure continuing professional development.

OVERRIDING ISSUES #6: Testing and Evaluation

Discussion Of The Topic

The current county program of testing, assessment and evaluation is a program of services designed to provide meaningful information about student achievement and program effectiveness to the instructional staff, administration, students, parents, and the general public. The program operates under the philosophy that the assessment of student performance is a major component of any quality instructional program. Assessment which reflects instructional goals, objectives, and activities will produce information useful for evaluating student performance and for monitoring instructional and program effectiveness.

Program Coordination

All countywide programs of testing and evaluation are coordinated by the Office of Testing and Evaluation within the Department of Pupil and Program Evaluation. The coordinator supervises the administration of over 95,000 tests annually, ensuring that test materials are delivered to and held secure in each school, that teachers are instructed and trained in correct test administration procedures, that tests are administered and scored properly, and that results are reported and interpreted correctly.

Summary Table of Tests Administered Countywide

Test	Nature of Test	Authority to Administer	Grades Administered	Result
Cognitive Abilities Test (Nonverbal)	Standardized School Ability Measure	MSDE (Account-ability)	3,5,7,9	Individual Ability Measure
Iowa Test of Basic Skills*	Standardized Achievement Test-Vocabulary, Reading, Language, and Mathematics	MSDE (Account-ability) Title I ESAA	3,5,7,9 3 4,6,8	Grade Equivalent, National Percentile Scores
Maryland Functional Reading Test	Reading materials typical of school, work, and daily life (graduation requirement beginning with class of 1982)	MSDE (Basic Skills)	7,9	Percent of Items Answered Correctly

*A change in the Maryland Educational Accountability Program will replace the Iowa Test of Basic Skills with the California Achievement Test (Form C, 1978) beginning in Fall of 1980. The test will be administered at grade levels three, five and eight. The individual ability measure will remain the Cognitive Abilities Test (verbal and non-verbal batteries, 1971.)

Test	Nature of Test	Authority to Administer	Grades Administered	Result
Maryland Functional Math Test	Mathematics materials typical of school, work, and daily life (projected graduation requirement - date not yet determined)	MSDE (Basic Skills)	7,9	Percent of Items Answered Correctly
Individualized Criterion Reference Test	Assesses student performance on specific reading and math skills	School Option	3-8	List of skills needed in reading and math for individual students

Test Results

Individual student test results (whether scores or lists of skills) are returned to schools within 30 days after testing is completed. Reports of individual student scores are produced for teachers, labels are provided for placement in student cumulative records and on articulation cards, and student profile reports are provided to parents. A variety of reports then are compiled for distribution to principals, directors, coordinators, public, press, Board of Education, and state and federal agencies. These reports may be school average scores, school performance by skill categories, school trends in performance over several years, school level performance of students with various abilities, and ranges of achievement by grade and content area by school and by county.

Each type of test result is accompanied by an explanation of the interpretation and use of the score and three copies are sent to each school. Although three copies of individual test results may provide adequate access to scores in elementary schools; in secondary schools, three copies may not ensure that all teachers receive or have equal access to test scores.

These reports and analyses are intended to ensure that the test results communicated to the student, staff, and the public are clear and correctly interpreted. This task is often made difficult by the nature of the results produced by the test itself. For example, parents of seventh and ninth grade students receive results for two tests administered during these school years. The Maryland Functional Reading Test produces a percent correct test score while The Iowa Test of Basic Skills produces percentile ranks. These scores are identical in appearance with different meaning (e.g., a percentage of 50 means failure; a percentile rank of 50 means appropriate performance at that grade level.) This is frequently confusing to students, parents, and the general public.

Testing Program Limitations

An examination of the "Summary Table of Tests Administered Countywide" will reveal that the countywide testing programs are limited to reading, language arts, and mathematics content areas. For instance, no testing is carried out in social studies or science. In addition, countywide testing is limited to grade levels three through nine; no testing occurs countywide in grades ten through twelve (with the exception of students who have yet to pass the Maryland Functional Reading Test and who receive reading assistance, and are retested annually.)

Processing Test Results

The processing of test results is a joint responsibility between the Office of Testing and Evaluation, Office of Educational Information Systems and the Office of Data Processing. Student identification information is printed via the computer on each student's test answer sheet, using the most current enrollment listing for each school. Completed answer sheets are "read" and machine-scored through use of the computer programs written jointly by the Offices of Testing and Evaluation, Research and Data Processing.

Test results are stored on the computer to provide record keeping of minimum competencies met and to allow trend analyses and profiles of achievement by school and county levels to be conducted each year. All student identification data is held secure and confidential in compliance with procedures adopted by the Data Processing Management Committee and as required by confidentiality statutes.

Over the last four years testing programs have been consolidated in an effort to minimize the amount of instructional time lost to testing. For example, ITBS scores are used for the annual evaluation of Title I and ESAA programs, thus eliminating at least two redundant testing programs.

Consultant Work by The Office of Testing and Evaluation

In addition to the countywide programs, the Office of Testing and Evaluation serves in a consultant capacity for all school personnel upon request. Samples of typical services provided are: the identification of appropriate tests for screening students to receive Special Education services, development and piloting of an instrument to screen gifted and talented students, and the review and recommendation of special tests requested for use at the school level to identify and diagnose reading and mathematics strengths and needs (e.g., Metropolitan Achievement Test and Stanford Diagnostic Tests).

Also, this office assists program coordinators in the selection/development or piloting of appropriate test instruments for students to validate credits toward high school graduation. Currently, this credit can be earned in the following courses: German I, French I, Spanish I, Algebra I and II, Fused Geometry, Trigonometry, United States and Modern European History, American Government, and Typewriting I. The ability to offer credit in the following courses is being pursued: American Heritage (Literature), Major British Writers, Intermediate Composition, General Biology, Basic Chemistry, and General Physics.

Inservice Programs

A major function of the testing office is to offer inservice programs. Each year over 50 inservice sessions are conducted by the coordinator for teachers, principals, parents, and guidance counselors. The topics range in scope to encompass almost all issues related to student testing: test selection, test construction, test administration, the interpretation of test results, the use of test results, and factors which can influence students' test scores. In addition, a three-credit workshop on the role of testing in instruction was introduced in the 1979-80 school year.

Despite the breadth of the inservice program, the small size of the staff limits the number of offerings that can be made available. Thus, all needs for inservice in testing are not being met.

The Evaluation Function

The evaluation responsibilities of this office emanate from specific requests for evaluation referred to the School and Program Evaluation Committee by the Board of Education, the superintendent of schools and others. This committee serves as a screening body which determines validity of the need for requested information and the best way to retrieve it. These responsibilities may include the design of the evaluation and necessary instruments, collection of information, data analysis, and writing the final report.

A sample of the recent surveys which have been constructed includes gathering data in various content areas for the Ten-Year Plan; surveying former students, employers, and staff as part of a vocational education evaluation; and surveying the staff development needs of the classified staff.

A sample of recent evaluations includes: an examination of enrollment fluctuations in home economics, designing evaluations for Title IV-C grants (English for Speakers of Other Languages, the Kindergarten Demonstration Center, and the Gifted/Talented & Advanced Program), and conducting a needs assessment for providing staff development to non-professional staff.

Almost all federal and state funded programs require an evaluation component. These evaluations require some participation of the Office of Testing and Evaluation. It may range from serving as consultant in conducting an evaluation through designing, gathering and analyzing data, and writing the evaluation report.

Testing for College

Three tests are available through Educational Testing Services to secondary school students in this county. The tests with their purposes and opportunities and their costs to students, are listed below:

Test	Purpose & Opportunity	Cost to Student
Scholastic Aptitude Test (SAT)	College/University Admission	$9.25 for Math & Verbal Batteries 15.00 for each Achievement Test
Preliminary Scholastic Aptitude Test (PSAT)	National Merit Scholar Qualifying Test (Scholarship Opportunity)	3.75
Advanced Placement Test (AP)	Earns college credit for course work completed in high school (tuition saving; advanced standing)	38.00

Currently, less than 32% of the graduating seniors in the county take the SAT and less than 2% take the advanced placement tests each school year. Two factors may help to explain these percentages. Students may be unaware of the benefits to be derived from taking these tests; or the cost of taking the tests may discourage or prohibit students from taking the test.

Range of Service

The range and number of services provided by testing and evaluation to support instruction is voluminous. These services include those fixed and provided each school year (e.g., testing, Title I and ESAA data analyses, and assisting in completing the evaluation of other federally funded programs) as well as those provided upon request each year (e.g., designing and implementing an evaluation of Vocational Education and assisting schools in identifying strategies for diagnosing reading and mathematics strengths and weaknesses). The management of the number and range of tasks performed concurrently is difficult, especially when completion dates are fixed. A review of the Testing and Evaluation Office by the Board of Education in November, 1979, revealed 31 separate tasks, either underway or proposed, that the coordinator would be responsible for completing within the year. The time required to complete assigned tasks is more than the time currently available.

A Look at the Research

The quality of published tests and instructional focus of test results has continued to improve.

Over the last decade the motivation of students to take tests has decreased.

An examination of the technical manual for standardized achievement tests constructed in recent years (e.g., Metropolitan Achievement Test, 1978; Iowa Tests of Basic Skills, 1978; California Achievement Test, 1978) indicates that during the development of tests, test makers have shown greater sensitivity to the various needs and characteristics of students who will be given tests and greater care in constructing test items to minimize any systematic sex, cultural, or regional bias.

Standardized achievement tests constructed in recent years produce student and classroom results that are more closely designed to provide teachers with meaningful, understandable, and usable information for planning instruction following the administration of tests.

A steady decline in achievement test scores has occurred nationally over the last decade (e.g., Scholastic Aptitude Test scores). The issues underlying test score decline are quite broad and include issues of educational philosophy and the lag between test development and the scope of the curriculum. Agents beyond the school system which have been attributed to the test score decline are student motivation, television, and changing social and family patterns.

All uses of tests must be carefully considered, directly linked to curriculum, and provide relevant instructional data. Excellence in instruction requires that test data reveal each student's strengths and weaknesses so that appropriate instruction and program planning can occur. Excellence will not result when test results are used to limit the opportunities available to students.

The challenge to the discipline of testing is to develop and implement a systematic method to incorporate all relevant information, including formal and informal measures, into profiles or composites of students for use by the classroom teacher, guidance counselor, and school administrator.

In terms of the total system operating budget, the functions of the Division of Pupil and Program Evaluation (which includes Educational Information Systems and Research as well as Testing and Evaluation) represents 0.27% of the operating budget. Guidelines which have been suggested for budgetary evaluation costs have ranged from 10-20% of the total project budget as a realistic estimate.

Recommendation

* The Committee recommends the continued development, updating, and improvement of testing/evaluation services provided to the instructional and non-instructional divisions of the school system.

To achieve this recommendation, the committee proposes:

Adoption of a flexible, comprehensive, time-efficient, countywide testing program that will provide for the assessment of all program areas on a planned basis.

Development of improved methods for interpreting test results to the students, parents, staff, Board of Education and the public.

Development and application of improved techniques for incorporating relevant student achievement and classroom performance data into composites or profiles for the most effective guidance and instruction of students.

Development of improved techniques for using data processing, programming, and computer storage capabilities to produce trend analyses of student achievement at the student, school, and county levels.

Expansion of modes for developing and delivering inservice to teachers, principals, central office staff, and the public, and the development of ways to reach more people in all of these audience groups.

Expansion of credit by examination as one alternative for earning graduation credit.

Funding of substitute days to assemble committees to establish objectives for credit by examination and to review and select instruments in each projected course.

Design of an evaluation component for all new instructional programs before they are submitted for Board of Education approval.

Funding of administration costs of the College Level Examination Program Tests, Preliminary Scholastic Aptitude Tests, Scholastic Aptitude Tests, and Advanced Placement Tests to all eligible students to encourage a wider student use of these instruments.

Provision of resources (time, staff, and materials) to complete existing and projected assignments within desired timeliness.

OVERRIDING ISSUE #7 Alternative Credit Programs

Discussion Of The Topic

In 1974, the Maryland State Department of Education (MSDE) revised graduation requirements to include the provision for students to earn elective credits outside of the classroom. In 1976, Anne Arundel County adopted guidelines for the Alternative Credit Program (ACP) which allows students in grades 9-12 to earn graduation credit through non-paid community-based learning experiences. The purpose of the program is to make it possible for high school students to participate in and earn high school credit for work and/or service related to their educational program. Alternative Credit Programs differ from Cooperative Work Experience Programs in the vocational education department in that students earn both credit and pay for work related to their areas of study in the latter program, whereas they earn credit only in the former.

Student participation in ACP can be initiated by the student, a teacher, or a person in the community referred to as a field sponsor as long as the student submits to the principal a written plan giving a description of the work to be accomplished during the community work experience. Most of the projects have been initiated by students because of interests and capabilities which cannot be accommodated in the regular school-based program. The principal approves a student's program according to the guidelines established in 1976.

The Work Schedule

Once the project is approved, the student and the field sponsor determine a work schedule. Students must work a minimum of 66 hours to earn one-half credit. The ACP may occur within or after the normal school day. In addition to preparing the work plan, the student must provide his own transportation to the site of the ACP experience. Other requirements include the student maintaining a daily log of his activites as well as completing a final project to demonstrate the skills and knowledge acquired during the work experience. In the past, students have undertaken projects ranging from term papers to sound-slide presentations. These projects are evaluated by the teacher sponsor and the field sponsor.

The Teacher Sponsor

The teacher sponsor is usually assigned by the principal. Presently, this person is an assistant principal, a counselor or a teacher who oversees the ACP in addition to regular duties. According to the guidelines of the program, the teacher sponsor is to serve as the liaison person between the student and the field sponsor. The teacher sponsor is supposed to make on-site visits and consult on a bi-weekly basis with the student and the field sponsor. A major drawback to the ACP as now being implemented is that the teacher sponsor has not been given release time to fulfill the job requirements as intended. The original proposal to the Board of Education included a request for one half-time professional position, based in each senior high school, to coordinate the program. Even though the Board approved the guidelines (1976), funding for the school-based personnel has not been available.

The Field Sponsor

The field sponsor is the person in the community who accepts the responsibility for training the student at the work site. He/she assigns the student specific tasks and evaluates student performance and submits a written evaluation to the teacher sponsor four times a semester. The field sponsor helps to evaluate the student's final project.

Earning Credit

County students have earned credit through a variety of community-based experiences. In one such project, students taught on a one-to-one basis survival skills, such as tying shoelaces and counting change, to patients at Crownsville State Hospital. In another project, one student worked at Gallaudet's Model Secondary School for the Deaf in Washington, D.C. where he learned sign language and subsequently taught it to others. Another student worked with a speech pathologist. There was a student who worked in a print shop where he learned the skills and techniques of printing. Currently, there are students earning alternative credit by working in a political campaign headquarters.

The Government Intern Program

Still another type of Alternative Credit Program is the County Government Intern Program. This program differs from the previous one in that students in the intern program do not submit individual programs but agree to follow the tasks as outlined in the official job description. In this program, students choose one of the following county departments in which to work at least one semester.

Police Department
Fire Department
Inspections and Permits
Library
Social Services
Public Works
Auditing Department
Recreation and Parks
Community Affairs and Information Office
Zoning Enforcement
Health Department

In 1979-80, 27 students participated in this program. In May 1980, the National Association of Counties presented an award to the intern program. This is an annual award to one county in the United States for an outstanding project.

Evaluation and Administration

Neither aspect of the Alternative Credit Program has been formally evaluated. During the school year 1979-80, the responsibility for the administration of the ACP has been assigned to the teacher specialist for student affairs. Procedures have been formalized for administering the program and it is anticipated that data will be available by June 1981 on participation in the program. Even in the absence of a formal evaluation, two major problems appear to need immediate attention. Because of the lack of personnel, the program has not been publicized on a wide scale and the majority of students are not aware of the program, thus producing low enrollment. Lack of personnel specifically designated to perform the task of teacher sponsor has also placed a strain on the program now existing. Consultations with students, on-site visitation, and follow-up are not being adequately conducted.

Looking at the Research

The Carnegie Council on Policy Studies recommended that there should be provisions for effective transition from high school to the labor market. Presently, there is little early contact with the world of work and little opportunity for organized service to others. The report favored an emphasis on student out-of-class activities. The inability of youth to make a smooth transition from school to work is attributed to the lack of opportunities for youth to learn about and explore a variety of possible careers.

The National Association of Secondary School Principals recently reported that there are at least 1700 schools throughout the United States with programs in which students provide services to the community and these programs have proven to be effective in increasing learning in the high school and in gaining employment for the graduates.

Schools have an obligation to help students explore personal aptitudes and employment preferences, and research indicates that community based education provides benefits to all students. Students involved in responsible tasks on behalf of others in their community develop more positive attitudes toward a variety of people and tend to be more responsible.

The most effective community based learning programs are those that last at least a full semester for four or five days each week. According to a national survey of 20 programs in educational programs offered outside of the conventional classroom, 77 percent of the students felt that they gained much more knowledge; only nine percent reported learning less than in class.

Recommendation

* The Committee recommends that the Alternative Credit Program be restructured and expanded.

To achieve this recommendation, the Committee proposes:

Revision of policies and procedures to ensure a well coordinated countywide program between the school and the community.

Increasing student awareness of the opportunities of the ACP and increasing participation in the program through the development of a system for disseminating information about ACP to students, teachers, parents, and community.

Increasing the number of participating community agencies.

Establishing a central office position to coordinate the program.

Providing regular released time from the teaching schedule to a designated person in each senior high school to serve specifically as liaison between the student and the field sponsor.

Development of a system for disseminating information about ACP to students, teachers, parents and community.

OVERRIDING ISSUE #8: Department Chairpersons

Discussion Of The Topic

In past years the supervision of instructional programs and teachers was the responsibility of supervisors of instruction, one of whom was assigned to each secondary school in the county and, at the elementary level, to clusters of schools. In addition, countywide direction was provided by program supervisors located in the central office.

In 1973, under a newly established organization of the instructional division, supervisors of instruction were removed from schools and placed in area offices. At the same time, overall countywide program direction continued to remain in the hands of program supervisors, who were renamed program coordinators and given somewhat different responsibilities dealing more with development and coordination of curriculum and less with direct supervision of instruction and teachers. These in-school supervisory responsibilities were assigned to principals, with assistance from the area office-based supervisors of instruction.

With a second reorganization of the instructional school system several years later, the area offices were disbanded. At this time, the position of supervisor of instruction was eliminated completely from the organizational chart. Full responsibility for supervision of instruction and teachers was then placed in the hands of the principal.

As this supervisory pattern changed, principals perceived a persistent problem in assuming the role of primary instructional leader within the school, feeling there was insufficient time to spend with each teacher in the classroom and in conference to bring about significant changes in teaching behaviors. Principals viewed their reponsibilites as mainly administrative in nature in order to keep the school running smoothly.

Presently, the same instructional organization exists. That is, the principal is considered the instructional leader of the school. A single countywide program coordinator in each discipline is designated to serve all schools on a K-12 basis. However, at the secondary school level, departments with three or more teachers have been allowed to appoint department chairpersons, who give the principal informal and limited assistance in some instructional areas.

Duties of Department Chairpersons

On August 7, 1974, the Board adopted a proposal which lists the definition, suggested responsibilities, and qualifications of the department chairpersons in the secondary schools. A member of Unit I, the department chairperson, appointed by the department of instruction with recommendations of the school principal and secondary school director, serves as the instructional liaison with the teaching staff. Teachers applying for department chairpersons' positions may be assigned wherever needed within the school system.

Presently, department chairpersons are serving in all secondary schools, but not necessarily in every curriculum area.

Primary duties of department chairpersons shall be to assist teachers and other personnel in the department and/or school with implementation of the program to improve teaching techniques, to promote inservice growth and to coordinate overall instructional activities. These duties are outlined below:

- o interpreting curriculum
- o planning inservice
- o coordinating departmental activities
- o evaluating, selecting, procuring, inventorying, assigning and distributing instructional materials
- o assisting in the determination of course offerings
- o assisting department members with instructional grouping
- o participating in decision-making regarding scheduling within the department
- o participating in the preparation of the program budget
- o diagnosing students' program needs
- o evaluating the overall departmental program
- o participating in the evaluation of the total school program
- o working directly with the principal to identify the needs of the school and individual teachers
- o setting instructional and curriculum priorities
- o providing input in the selection of new personnel

Qualifications

The established qualifications for department chairpersons include:

- o at least three years of successful teaching experience with as varied assignments as possible.
- o an Advanced Professional Certificate.
- o a planned program of graduate work with at least one course in each of the following: curriculum, supervision, content in the field.
- o completion of the promotion exam.
- o a demonstrated ability to work well with people.
- o a broad knowledge of curriculum, teaching techniques, and content.
- o an understanding of and interest in children in the total school program.
- o a potential for leadership and professional growth.

Release Time

The guidelines call for department chairpersons to have release time according to the following schedule:

No. Department Members (Including Chairperson)	No. Teaching Periods	No. Periods for Depart. Duties	No. Planning Periods
7 or more	3	2	1
3-6	4	1	1
1-2	5	0	1

These guidelines are not adhered to on a countywide basis.

The Situation In Elementary Schools

Many of the same duties performed by the department chairpersons are likewise accomplished by persons on the staffs of some larger elementary schools. Although there are no formal provisions made for the appointment of elementary chairpersons, some elementary principals have at their discretion, designated one teacher per grade level to act as the team leader or grade level coordinator. This teacher does not have release time to conduct these duties.

How Duties Vary

It is a fact that actual duties of department chairpersons vary from school to school, depending upon specific assignments and directions given by the principal. One thing that is consistent, however, is that chairpersons do not formally participate in the rating of teachers within their departments.

Staff Development

Each year the Office of Staff Development conducts a three-credit workshop to train persons for department chairperson positions. However, beyond this workshop there have been no on-going inservice programs to promote the proficiency of department chairpersons.

As approved February 6, 1980, by the County Board of Education, a planning grant for a training center for department chairpersons was submitted to and approved by the Maryland State Department of Education. Beginning in February 1980, a steering committee met regularly to establish a plan for training department chairpersons. The components of the training center will be developed to provide skills related to the learning processes, instructional strategies, and communication skills that would be used in assisting the teaching staff in the improvement of instruction in a field based program during the regular school year. The model suggested by this project would be consistent with the guidelines previously approved by the Board. It is, however, limited to a select number of middle/junior high schools.

Evaluation Of Department Chairpersons

There exists no separate instrument specifically designed to rate department chairpersons. They are evaluated on the basis of their teaching performance in the same manner as a classroom teacher, with the same rating instrument. Their performance as department chairperson is evaluated subjectively on an informal basis by principals, who make the decision regarding their reassignment as chairpersons from year to year.

Work Schedule

Also in 1974, tne Board adopted the stipulation that department chairpersons work 200 days, or 10 days a year more than a regular teacher, and be paid on a per diem basis for the additional days. This policy was never implemented, however. Nonetheless, department chairpersons frequently work without remuneration beyond the days required of classroom teachers in order to fulfill their responsibilities. The position carries no financial remuneration above the normal salary scale for classroom teachers.

A Look At The Research

Research on the question of department chairpersons and their effectiveness in, and relationship with, the school is extensive. The reading shows that principals generally feel that with the increased demands placed upon them, they are unable to fill their roles as instructional leaders to the extent they would like. Indeed, most principals perceive their role today as mostly administrative and managerial in nature.

Teacher attitudes have changed in recent years. Careers in teaching are reported relatively unattractive because of the lack of a range of functions, together with a significant mismatching of teacher competencies and talents with work assignments. This could be rectified by differentiating teaching positions according to degrees of responsibility and accountability inherent in the tasks performed, including the level of training and amount of experience required, as well as the extent of influence in the position held.

In order to bring about efficient working relationships between administrators and teacher leaders, training programs to prepare administrators, to work with teacher leaders should be an inservice requirement for all administrators.

Teacher leaders should demonstrate a thorough knowledge of the content area as well as the abilities to plan, address curriculum, manage the learning environment, interact with staff and community and carry out administrative directives. Teacher leaders should possess a working knowledge of teaching methodologies and learning psychology.

Compared to their colleagues, teacher leaders are more likely to have the following characteristics: the capacity to bring about moderate change in the school, exceptional knowledge of curriculum and instructional skills, a more positive relationship with students and adults involved with the school. Also, compared to their colleagues, they are older, have reached a higher level of formal education, and have more teaching experience.

One measure of teacher leader's effectiveness is considered to be the teacher's influence in bringing about change in a school.

A comprehensive evaluation of a teacher leader should:

- enable a ratee and his rater to establish performance goals for the ratee.
- encourage self-appraisal by the ratee.
- provide assistance to the ratee in identifying strengths and weaknesses and in mutually developing courses of action to bring about desired changes.
- provide a measure of accountability by assessing the ratee's progress toward accomplishment of goals.
- provide one source of data for making administrative decisions regarding assignment.

Supervisory personnel involved in the evaluation-rating process should:

- know the philosophy, objectives, and traditions of the program, school and system.
- know strategies and methodologies conducive to teaching-learning environments.
- participate in the establishment of goals.
- follow established procedures for the assessment process.
- observe teacher and student behaviors.
- conduct conferences to facilitate evaluation and rating.
- provide assistance to teachers.
- encourage positive attitudes toward the assessment process.
- encourage self-appraisal.
- initiate inservice programs based upon observed needs.
- foster a positive self-concept within teachers.
- maintain continuous professional contact with the teacher.
- establish an atmosphere of cooperation.
- exhibit flexibility in decision making.

Teachers react more positively to supervision, and ratings they receive, when it originates with persons closely involved with the program in question, rather than persons further removed from the implementation process.

Recommendation

* The Committee recommends creation at each school of formally recognized leadership positions for each specific discipline or specialty.

To achieve this recommendation, the committee proposes:

Full implementation of the secondary school department chairperson report as adopted by the Board in August, 1974.

Development of formally recognized leadership positions at the elementary level.

Establishing a career step on the teachers' formal salary scale for elementary teacher leaders and secondary department chairpersons.

Development of a systematic process to rate secondary department chairpersons and teacher leaders.

Involvement of elementary teacher leaders and secondary department chairpersons in an advisory capacity, in the teacher rating process.

Establishing inservice training for elementary teacher leaders and secondary department chairpersons on an ongoing basis.

SUMMARY OF RECOMMENDATIONS FOR GENERAL CONCERNS AND OVERRIDING ISSUES

GENERAL CONCERNS

Even though the Committee found it difficult to establish an order of importance for the recommendations for General Concerns, there are two recommendations that the Committee feels are critical to achieving equality of educational programs. Therefore, these two concerns should be addressed immediately.

Grade Organization: The Committee recommends that a consistent grade organization be implemented.

Comprehensive High School: The Committee recommends the establishment of minimum offerings for a comprehensive high school program.

The remaining recommendations under General Concerns, while not as critical as those above, do assist in achieving excellence in education. These have been grouped in the categories of Curricular Concerns, Fiscal Concerns, and Homework and Grading. These categories and individual items within and among the categories can be adopted independently; that is, they can be adopted without necessarily impacting upon the others. For example, with the adoption of the global education recommendation, there is no impact on the recommendations concerning central purchasing. The remaining recommendations under General Concerns in their respective categories are:

Curricular Concerns

Global Education: The Committee recommends that global education be incorporated into appropriate curricular content areas, K-12.

Interdisciplinary Curricula: The Committee recommends that the implementation, development, revision or modification of curricula be interdisciplinary.

Supplementary Programs: The Committee recommends continued strong endorsement of supplementary programs by the school system, with investigation of ways in which the supplementary education offered here can be even more closely correlated with regular program objectives and meet continuing educational needs of county citizens.

Career Education: The Committee recommends affirmation of the current philosophy of infusing career education into all program areas and continuation of the career education program in all schools at all levels.

Outdoor Education: The Committee recommends continued use of outdoor education as an extension of the regular education program, with the school system seeking ways to allow more students to benefit from such experiences.

Fiscal Concerns

Central Purchasing and Repair: The Committee recommends greater use of central purchasing and repair procedures.

Fund Allotments for Equipment and Materials of Instruction: The Committee recommends allocation and disbursement of funds based on a yearly, school-by-school assessment of program needs, rather than pupil or teacher population.

Homework and Grading

Homework: The Committee recommends that the Board of Education strongly reaffirm the value and appropriateness of homework as an instructional tool and direct each school to develop formalized practices regarding its assignment to produce policy consistency.

Pass/Fail: The Committee finds pass/fail grading to be sufficiently meritorious to justify further exploration as to its applicability for certain courses.

Weighted Grading: The Committee recommends the development and implementation of a weighted grading system for grades 9-12.

OVERRIDING ISSUES

The Committee found that the overriding issues transcended a number of program areas. Therefore, it is difficult to deal with each issue in isolation. The one that is most critical and should be addressed immediately is the recommendation for **Graduation Requirements and Time Allotments:**

> That the Anne Arundel County Board of Education exercise its option to increase from the current State minimum of 12 to a new minimum of 14, the number of credits which must be earned in specific content areas from among the total of 20 credits required for graduation. One credit each would be required from these areas: Mathematics or Science; Art, Music or Foreign Language.

Included in the section addressing the above recommendation are other recommendations related to Graduation and Time Allotments just as important. Some of these recommendations concern an increase in instructional time for certain subjects at the elementary level and an increase in the length of the school day for the elementary school. Also, there are recommendations concerning a seven-period day for secondary schools, flexible scheduling and a differentiated diploma.

The decisions made with respect to **Graduation Requirements and Time Allotments** could impact on the remaining recommendations concerning overriding issues. However, regardless of those decisions, the recommendations for **Staff Development and Administration, Staffing** and **Department Chairpersons,** and **Testing and Evaluation** are crucial to achieving excellence and are supportive of recommendations found in program areas.

Staff Development and Administration

Staff development activities must be developed to ensure that personnel receive training needed to accomplish the numerous tasks required by recommendations outlined in the Ten-Year Plan. Most of the recommendations for the program areas include a proposal for some type of inservice work. This implies that staff development should be a major consideration with the adoption of most of the recommendations. Included under this category is the recommendation for Administration since the focus of the recommendation is staff development.

Staff Development: The Committee recommends that the present staff development program be expanded to encompass those requirements outlined in the separate components of the Ten-Year Educational Plan, including activities that will increase the skills, attitudes, and knowledge of all instructional, administrative, and support personnel.

Administration: The Committee recommends establishment of a comprehensive preservice and inservice program for persons currently holding, or expected to hold, administrative, supervisory educational leadership positions in the county.

Staffing and Department Chairperson

The recommendations under Staffing not only address the concept of pupil/teacher ratio, but make provisions for resource assistance in mathematics and science. Additional recommendations address the issues of reading teachers in elementary schools, staffing patterns for low-enrollment courses at the secondary level and pupil/counselor ratio. Also, included in this category is the recommendation on department chairperson.

Staffing: The Committee recommends that school-based instructional personnel allotments be made according to program needs, rather than be based on a ratio determined by the total school population. In contrast, it is recommended that administrative personnel be assigned on the basis of total school population.

Department Chairperson: The Committee recommends creation at each school of formally recognized leadership positions for each specific discipline or specialty.

Testing and Evaluation

A strong testing and evaluation component is necessary in order to assess the effectiveness of programs and consequently, give direction in instructional planning. Among the concerns addressed in the recommendation for **Testing and Evaluation** are the assessment of instructional areas not currently being assessed, providing sufficient personnel to handle the increased workload and developing improved methods for interpreting test results.

The Committee recommends the continued development, updating, and improvement of testing/evaluation services provided to the instructional and non-instructional divisions of the school system.

Alternative Credit and Extended Day Activities

The remaining two recommendations, **Alternative Credit** and **Extended Day Activities**, if adopted, would offer additional and equal opportunities not traditionally received during the regular school day. These two recommendations provide the means by which students can pursue excellence through their individual interests and abilities.

Alternative Credit Program:	The Committee recommends that the Alternative Credit Program be reconstructed and expanded.
Extended Day Activities:	The Committee recommends that the Extended Day Activities Program be made available on a consistent basis to all students in all schools.

PART III

Program Specific Issues

PROGRAM AREA: Art

PRESENT STATUS

Art is offered at all levels in the Anne Arundel County Public Schools and taught by art teachers in grades 1-12. The elementary program has a fundamental skills emphasis and is required for all students. The middle/junior school program continues the fundamental program through a studio environment and is a 12-week requirement for all students. All senior high art courses are offered on an elective basis. Art clubs meet to provide additional art instruction for gifted and talented students, as well as students who have shown a special interest in art.

The present elementary art curriculum, in use since 1975, is designed to provide all children opportunities for creative art experiences that will give emphasis to seeing visual relationships, producing art works, knowing and understanding about art objects, evaluating art products and appreciating art and its relationship to world culture. The program is designed for students to advance sequentially according to abilities, background experiences and maturity levels.

Eighty percent of the elementary schools utilize the National Gallery of Art visitation program.

Middle school courses are general in nature emphasizing exploratory and experimental approaches. Activities are designed to increase manipulative, organizational and expressive skills. Principles of design skills are refined in areas of painting and drawing, graphics and commercial art, sculpture and modeling, lettering and layout, crafts and ceramics. There is emphasis on knowledge and appreciation of man's visual art heritage, as well as professions and related fields to stimulate interest in career opportunities.

At the senior high school level design elements and principles are stressed through two-and-three dimensional activities at all levels. There are 24 different course offerings in the areas of painting, drawing, graphics, ceramics, sculpturing and crafts. Concepts, major objectives and suggested activities for all senior high courses are presented in the Tentative Art Curriculum Model for Senior High Schools (1972-73). The staff is currently revising the senior high course guides.

There is, at present, no formal method for assessing the effectiveness of the total art program.

Scheduling for art class varies in length by grade level. Although there is no formal program delivered by the art teachers for kindergarten students, activities are included in the kindergarten curriculum. The art teacher acts as a consultant to kindergarten teachers. Art is scheduled for a 60-minute weekly period for elementary students, excluding those in kindergarten. Full-time elementary art instructors teach an average of four classes daily. Although it has not been implemented in all cases, the art programs for grades 6-8, in middle/junior schools, were designed with the intent that all students meet daily for a 12-week session. Students wishing to take music and a foreign language may experience difficulty scheduling art and physical education. In one junior high school the 12-week session has not been carried out due to limited facilities. Some high schools permit students to pre-register for and schedule consecutive art periods for certain studio courses thus providing a longer period of time for students to concentrate on a project.

Presently, 151 art teachers, 64 elementary and 87 secondary, are employed on a full-time or part-time basis. Twenty-nine of the 74 elementary schools have full-time art teachers. All middle/junior and senior high schools have a minimum of two art teachers on the staff.

Four elementary teachers, one in each county area, act as K-12 resource teachers for a cumulative total of six and one-half days a week. Beginning with the 1980-81 school year, one secondary resource teacher is scheduled to serve the 12 senior high schools on a part-time basis. These teachers serve new teachers, those requesting aid and those identified as needing assistance with their teaching responsibilities.

Since 1975, 13 different Maryland State Department of Education (MSDE) approved workshops have been offered in art education, each awarding three credits. Nine workshops serve secondary instruction with but four workshops relating to elementary curricular topics. Thirty-one workshops have been conducted since 1976 in 11 of the 13 different offerings. Those with the highest enrollment have been in weaving, pottery, crafts and the graphic arts.

Student artwork is regularly on display at various locations throughout the county. Exhibits appear in public office buildings, public libraries, shopping malls and in the schools. Teachers set up these exhibits after school hours on a volunteer basis.

Each middle, junior and senior high school has a designated area for art instruction, but some elementary schools have converted a regular classroom for art instruction. In some cases, limited space necessitates bringing materials of instruction into the regular classroom. This practice may alter or limit activities due to existing conditions. The same equipment is not uniformly available in all schools of the same grade level.

Consideration for programs offered at Maryland Hall for gifted and talented students are under development.

MAJOR RESEARCH FINDINGS

A review of the research and literature produced the following findings:

* *Art should be taught as a basic as it relates to our culture and enjoyment. Drawing and design are the necessary rudiments.*

* *Art education appears to be flourishing despite budget cuts. Thirty-five states had or were adopting policies in 1978-79 endorsing arts education in elementary and secondary schools. Two-thirds of these states provided state funds to finance activities such as inservice programs, demonstration projects or arts advisory councils. In addition, 49 states used federal funds in 1977-78 to support arts education projects in the schools.*

* *A steady progression of student achievement continues through the teenage years. There is no sufficient difference between male and female achievement; however, significant discrepancies do exist in the achievement of black and white students and high-metropolitan and low-metropolitan students.*

* *There is a consistent relationship between student achievement and the number of different kinds of artwork they do outside the school. Interest in art outside the school appears to be related to increased achievement on school-related drawing tasks.*

* *Experienced teachers are regularly more able to profit from inservice courses in arts, than are beginning teachers, probably because the former have mastered problems of discipline and are familiar with the existing curriculum.*

* *Studies by researchers in museum communication indicate that the typical museum exhibit does nothing to enhance cognitive learning. Likewise, the one-shot class tours, which are offered regularly by 73% of American museums and occasionally by another 20%, have had no visible impact on the mass improvement of visual literacy.*

* *The numbers of visitors to museums have increased dramatically since 1960.*

  1960 - over 200 million visitors
  1965 - over 300 million visitors
  1975 - over 700 million visitors

* *Children's sensitivity to painting styles develops in middle childhood.*

* *Art specialists will often be called upon to help classroom teachers integrate art into the non-arts curriculum; yet in most teacher training institutions, students preparing to teach the arts at the elementary level receive only limited training in teaching math, reading, or social studies and so have no real understanding of how integration can be accomplished.*

* *Ninety percent of elementary school arts are taught by classroom teachers.*

* *Thirty-seven states specify the elementary classroom teacher is responsible for teaching the arts and four states expect specialists to perform this function at the elementary level.*

* *Classroom teachers in 30% of the nation's colleges may receive certification without having taken a single course in art or music, and yet they will be expected to teach these subjects.*

* *Systematic, objective methods for documenting non-verbal abilities can be accomplished within the arts and these methods coupled with traditional methods in art and psychology should provide a more precise and comprehensive view of human abilities. The knowledge gained from these methods may ultimately convince educators that the arts are basic to schooling.*

RECOMMENDATION

The assumption of art education is that knowledge and skill acquisition in art are integral to personal appreciation and fulfillment in the arts. Art communicates the private inner worlds of the individual's emotions and the culture's basic values. Understandings of other people can be gained through the study of art. Research indicates that achievement in art follows a pattern similar to that in other learning areas and that the skills necessary for successful artistic achievement can be earned. Therefore, the Committee recommends:

* MAINTENANCE AND REFINEMENT OF THE ART PROGRAM SO THAT IT IS EMPHASIZED AS A BASIC PART OF THE COMPREHENSIVE CURRICULUM, K-12.

In implementing the above recommendation, the Committee proposes:

1. Development of a curriculum for gifted and talented art programs, K-12.

2. Refinement of the curriculum for kindergarten art programs.

3. Providing art career awareness counseling for secondary schools.

4. Incorporation of art literacy as an integrated part of the total art program.

5. Providing proper facilities to meet program needs in all buildings.

6. Establishment of inservice training concerned with the elementary curriculum, K-12 art appreciation

including art literacy as it relates to cultures, politics, etc., and the integration of art into the total school curriculum.

7. Revision of senior high school curriculum guides.

8. Assessment of total program on an ongoing basis.

9. Full implementation of middle/junior high school art programs.

10. Providing adequate equipment to implement programs in each school.

The foregoing recommendation will require:

a. identification and expansion of art experiences for gifted and talented programs.

b. identification of art experience necessary to the developmental levels of the kindergarten program.

c. establishment of career counseling methods.

d. identification of the elements of art literacy and curricular modification to establish this as an integral component.

e. installation of adequate ventilation systems in all graphics, photography and ceramic areas and basic equipment to support art program in all schools; establishment of teaching areas to accommodate the total program.

f. development and implementation of inservice programs in the areas of art appreciation and literacy.

g. sufficient time and personnel to revise the senior high curriculum.

h. identification of a comprehensive assessment instrument.

i. adjustment of student scheduling practices.

j. identification of equipment available in each school; determination of needed equipment and allocation of funds to fulfill the stated needs.

OUTCOMES

With adoption of this recommendation, the following outcomes are projected:

- Courses will be provided that are commensurate with the abilities of all students.
- Students will be more aware of career opportunities in art.
- School facilities and equipment will reflect program needs.
- Teachers will acquire knowledge and skills needed to implement the elementary curriculum, to integrate art into the total school curriculum and to promote art appreciation.

PROGRAM AREA: Driver Education

PRESENT STATUS

Driver Education is offered in all Anne Arundel County high schools as an elective semester course for one-half credit. Approximately 65% of students who are eligible to take the course do so. About 7% of those eligible elect to take the five-week summer course, offered without credit. No fees are charged for the summer program. Driver Education is not available in the Evening High School.

The budget for 1978-79 was approximately $600,000 and served approximately 4,700 students for a per-student cost of $128. The state reimburses the county $65 per student.

The minimum state requirements are 30 hours classroom instruction, 12 hours of simulation and three hours of behind-the-wheel driving. The full semester credit course in the county provides more than these minimum requirements, however, including 60 hours in the classroom, 12 hours of simulation and the normal three hours behind-the-wheel. Vehicles used for on-the-road instruction -- approximately 55 per year -- are loaned to the school system by local automobile dealerships. The curriculum for the course is The Proposed Curriculum Guide For Driver and Traffic Safety in Maryland.

Every senior high school in Anne Arundel County is equipped with a complete simulation laboratory. With one exception, these facilities handle 16 students at a time. (Twelve are accommodated at the single smaller lab.) All teachers used in the program hold certification in at least one subject other than driver education. There were 20.6 full-time equivalent professional staff positions (one coordinator, 18 teachers - some part-time, and seven aides) assigned to the program in 1979-80. Paraprofessionals are used only for behind-the-wheel instruction. Staff development activities are usually handled on a direct individual basis by the program coordinator. However, a one-credit workshop was held in the fall of 1979 in which nine teachers participated.

Presently, this program is supported in part by state funding. If no action to extend funding support is taken by the General Assembly by July 1, 1983, state financial support of this program will terminate one year later. The school systems of Maryland are not required to offer this program, but may do so at their option. (Until 1979, the program was mandatory under State law.) The Maryland General Assembly is continuing to evaluate the cost effectiveness of the program.

MAJOR RESEARCH FINDINGS

A review of the literature, as well as an examination of the Driver Education Program in Maryland, indicates:

* *There is no data base to substantiate that those students who have participated in driver education programs are safer drivers, or less safe drivers than those who have not participated in driver education programs.*

* *A survey of the 24 school systems in Maryland indicated that:*

  13 of the local school systems offer driver education for ½ credit during the school day;

  six of the local school systems offer driver education for ½ credit during the school day;

  five of the local school systems offer driver education on a non-credit basis during the school day by pulling students from other classes;

  two of the local school systems offer driver education as a summer program for ½ credit;

  two of the local school systems offer driver education as a summer program for ½ credit;

  four of the local school systems offer driver education in the summer on a non-credit basis;

  16 of the local school systems do not offer driver education as a summer program;

  three of the local school systems offer driver education after school during the school year; and,

  21 of the local school systems do not offer driver education after school during the school year.

* *Some school systems, including four in Maryland, own their own driver education vehicles.*

* *To receive a driver's license in Maryland prior to the age of 18, one must satisfactorily complete an approved driver education program.*

* *Some insurance companies offer decreased insurance rates to students who have satisfactorily completed approved driver education programs.*

* *High-risk situations and decision making are frequently not addressed. Multiple car-driving ranges are the most appropriate method of gaining experiences in high-risk situations. However, in Anne Arundel County, high-risk situations and decision making are addressed through the use of simulators.*

* *The trend is toward greater use of simulators.*

* *Some out-of-state school systems contract for behind-the-wheel instruction only.*

* *DeKalb County, Georgia, is currently implementing a Safe Performance Curriculum Driver Education Demonstration Project under a $3.5 million Federal Grant and with additional state assistance. Purpose of the project is to provide statistics on the effectiveness of driver education, with a final report scheduled to be submitted in December, 1982.*

RECOMMENDATION

It is the feeling of the committee that driver education is not a priority program in terms of achieving the primary mission of the schools and, therefore, the committee questions the practice of granting credit towards graduation for this course. However, inasmuch as it is the intent of the Maryland General Assembly to use the data gathered in the federal study conducted in Georgia as an aid in determining the future of the driver education program in the public schools of Maryland by July 1, 1983, the Committee recommends:

* CONTINUING THE DRIVER EDUCATION PROGRAM UNTIL JULY 1, 1983, AND MAKING THE PROGRAM AVAILABLE TO STUDENTS IN THE EVENING HIGH SCHOOL ON A NON-CREDIT BASIS.

In implementing the above recommendation, the Committee proposes:

1. Offering driver education as part of the Evening High School program, effective immediately.

2. Encouraging students to take driver education either in Evening High School, or in Summer School on a non-credit basis.

3. Developing alternatives for future courses of action pending the results of the Georgia study, those alternatives to include:

   a. offering driver education as part of the regular school day on a credit basis;

   b. offering the program on a non-credit basis outside the school day;

   c. contracting for behind-the-wheel instruction only;

d. discontinuing driver education as a function of the public school program.

The foregoing recommendation will require:

a. establishment of a committee or task force to undertake the study of the alternatives suggested above and to recommend a future course and direction for the driver education program.

OUTCOMES

With adoption of this recommendation, the following outcomes are projected:

- More students will take driver education on a non-credit basis in the evening or during the summer.

- The total implementation cost of the program will decrease as fewer students take driver education during the regular school day, when staffing costs are higher.

- Students taking driver education during the evening or summer will be able to take an additional course during the regular school day.

PROGRAM AREA: Early Childhood
CONSIDERATION: ALL-DAY KINDERGARTEN PROGRAMS

PRESENT STATUS

All five-year old children in Anne Arundel County are eligible for enrollment in the kindergarten program. Among the 4,500 students in first grade classes for 1979-80, 124 had not had a kindergarten experience. There was a total of 19 requests for early admittance to first grade in 11 schools in 1978-79. Two children were selected for placement upon completion of the evaluation process.

Curricula in all content areas include goals, objectives, and activities for kindergarten. A Kindergarten Guide reflects the interrelation of various content areas and identifies instructional objectives related to a young child's development. Kindergarten teachers are responsible for the total instructional program of their students including art, music, and physical education. Kindergarten children spend two and one-half hours in school; all other elementary pupils spend six hours.

Since 1976, the Maryland State Department of Education has required early screening and continuous assessment for potential learning problems. The major purpose of the early identification program is the recognition of children's needs in order that an appropriate educational program can be planned to meet the identified needs. The following screening instruments are used:

1. Parent Interview/Checklist
2. Maryland Systematic Teacher Observation Instrument (MSTOI)
3. Early Childhood Language and Speech Inventory
4. Early Childhood Assessment Instrument

Between 1975 and 1978, all kindergarten, first and second grade teachers, principals, reading teachers and speech therapists received inservice training to implement state-required early identification procedures. Personnel in these categories coming on board since 1978, have been familiarized with these procedures and their implementation on an individual basis.

The current ratio for kindergarten programs is one teacher per 22 students. Presently, there are 96.5 kindergarten teachers and 16.5 county aides employed in the kindergarten program. Title-I schools may assign Title I aides to assist in kindergarten.

The Demonstration Center at Richard Henry Lee Elementary School offers inservice instruction for early childhood educators including teachers, aides, principals, reading teachers and speech therapists. At the conclusion of the 1979-80 school year, all kindergarten teachers and paraprofessionals will have participated in staff development work at the Center. Instruction is also being provided for selected first grade staff. Depending on funding, the program is being planned to include all primary personnel, to give inservice instruction to new kindergarten staff, and to provide follow-up for those who have already participated in the program at the Center.

MAJOR RESEARCH FINDINGS

A review of the research and literature produced the following findings:

* *The number of working parents who require day-care facilities for their pre-school children has greatly increased.*

* *All-day kindergartens provide the time to meet physical, emotional, social, and cognitive demands.*

* *In an all-day program comparatively less time is spent in routine activities and bus riding than in half-day sessions.*

* *The extra time gained in a full-day program provides a greater opportunity for learning and development at a crucial time in a child's life.*

* *There is a high positive correlation between structured early childhood programs and later pupil achievement.*

* *According to a Maryland State Department of Education report in January, 1979, of six pilot full-day kindergarten programs, all reported greater growth in full-day students as compared to half-day kindergarten students.*

* *All-day kindergarten allows children to be an integral part of the total school's educational program.*

* *Because half-day kindergarten teachers generally are responsible for twice as many students as other elementary teachers, the probability of early identification of learning difficulties is decreased.*

* *Early intervention programs, initiated as a result of early identification, have proved to be cost effective.*

RECOMMENDATION

All-day kindergarten programs provide additional time for learning and development at a crucial time in a child's life. Teachers for all-day kindergarten programs are responsible for teaching a significantly lower number of children. This factor enables instruction to occur at a less hurried pace, provides for an increase in early identification of learning difficulties, and allows kindergarten students to participate in the total school

program including assemblies and instruction by cultural arts specialists. In addition, there is a high positive correlation between participation in kindergarten programs and later achievement. Therefore, the Committee recommends:

* AVAILABILITY OF ALL-DAY KINDERGARTEN PROGRAMS FOR ALL ELIGIBLE CHILDREN.

In implementing the above recommendation, the Committee proposes:

1. Revision of the existing kindergarten curriculum.
2. Expansion of the existing kindergarten teaching staff and facilities.
3. Increased staff development for kindergarten teachers to accommodate curricular demands.
4. Assimilating kindergarten students into the total school program.

The foregoing recommendation will require:

a. Sufficient time and personnel to revise existing kindergarten curriculum.

b. Scheduling kindergarten students for activities such as lunch and instruction in the cultural arts.

OUTCOMES

With adoption of this recommendation, the following outcomes are projected:

- There will be a decrease in grade-retention rate in the elementary grades.
- There will be a decrease in students recommended for and receiving special education services.
- There will be a decrease in the number of students performing below grade level on the California Achievement Test.

PROGRAM AREA: EARLY CHILDHOOD
CONSIDERATION: PRE-KINDERGARTEN PROGRAMS

PRESENT STATUS

Beginning in September, 1979 a state funded Extended Elementary Education Program (EEEP) was initiated at Tyler Heights School with 45 four year olds participating. Similar programs with 30 children enrolled in each began at Freetown School in January, 1980 and Glendale School in March, 1980. Eligible for funding for EEEP are schools with average reading scores of six to nine months below third grade level as measured by the Iowa Test of Basic Skills.

The staffing ratio for each pre-kindergarten class is one teacher and one aide per 15 students. In addition, a teacher specialist is assigned to each class. The teacher specialist is responsible for the development and implementation of curriculum which is designed for the specific needs of the children participating in the program and uses suggestions from the 1973-76 County Title III Program and recommendations from the state department. The goal of EEEP is to develop and implement a well-balanced, interrelated, sequenced program (focusing on the developmental levels and the way children learn), thus providing greater opportunities to link preceding experiences and skills to the future strengths and needs of young children. Another duty of the teacher specialist is to integrate the parenting component in the program. The goal of the parenting component is to develop a partnership between parents and staff in order to acquire the knowledge and skills essential to meet the needs of young children and their families. The teacher specialist also guides the articulation between teachers and aides (pre-k through grade 2) to provide for follow-up and assistance of students through grade 2. In addition, the teacher specialist works cooperatively with agencies such as the health department to ensure maximum services for young children and their families. The teacher specialist is also responsible for coordinating inservice instruction as it is needed.

The state department is conducting a state-wide assessment of EEEP and does not require individual school systems to evaluate their programs with specific criteria. However, children participating in Anne Arundel County's EEEP are given the Boehm-Slater test which correlates well with the Maryland Systematic Teachers Observation Instrument (MSTOI) used in kindergarten. This will provide student follow-up data to assist in program evaluation.

MAJOR RESEARCH FINDINGS

A review of the research and literature produced the following findings:

* *A major portion of the physical, emotional, and cognitive growth of a child occurs before entry into grade one.*

* *The increasing number of working mothers and the swiftly changing patterns of parent-child relationships lend evidence to the necessity for providing*

pre-school experiences where parents and teachers can work together supplementing and complementing each other.

* *Although the population of four-year-olds is declining, the number enrolled in early childhood programs is increasing. However, very few programs are publicly supported.*

* *The proportion of four-year-olds enrolled in private early education programs is directly proportional to family income.*

* *Children from economically disadvantaged homes fail in school more often than their more advantaged peers.*

* *Children who have received pre-school education score higher on I.Q. and achievement tests and will more likely be working on grade level and less apt to be enrolled in special education programs than those students who were not in pre-school programs.*

* *Children who received pre-school education are more likely to have positive self-concepts than their peers who did not participate in such programs.*

* *The effects of pre-school education are both positive and long-lasting.*

* *To be effective, pre-school education should:*

  o offer planned and structured programs

  o directly involve the parents

  o extend into the elementary grades

  o include follow-up techniques

* *Early education can result in savings in both human and financial terms.*

* *Pre-school education programs should be available, but not mandatory for all students.*

RECOMMENDATION

The number of children participating in pre-kindergarten educational programs is increasing; however, because very few programs are publicly funded the proportion of children enrolled is directly proportional to family income. The fact that children from economically disadvantaged homes fail in school more often than their advantaged peers, indicates that pre-kindergarten educational programs are not available for the very children who need them the most. The early childhood years are crucial for physical, emotional, and cognitive growth and are the most effective times for identifying and correcting learning difficulties and building upon strengths. Because planned pre-kindergarten programs have benefits for all students, the Committee recommends:

*PRE-KINDERGARTEN PROGRAMS BE AVAILABLE FOR ALL FOUR-YEAR-OLDS.

In implementing the above recommendation, the Committee proposes:

1. Establishing countywide curriculum for the pre- kindergarten objectives.
2. Revision of county curriculum to include pre-kindergarten objectives.
3. Providing consultant time for pre-kindergarten teachers with special teachers of art, music, physical education, and reading.
4. Providing facilities, staff, and materials to implement countywide pre-kindergarten programs..
5. Providing staff development for new teachers of pre-kindergarten programs.
6. Implementing a strong parent education component.
7. Ensuring articulation and follow-up of students in the primary grades.

The foregoing recommendation will require:

a. Sufficient time and personnel to develop curriculum.

b. Developing strategies and materials for use in the parent education component.

c. Developing techniques to improve articulation and follow-up of students.

OUTCOMES

With adoption of this recommendation, the following outcomes are projected:

- There will be a decrease in the number of students repeating a grade level.
- There will be a decrease in students recommended for and receiving special education.
- There will be a decrease in the number of students performing below grade level on standardized achievement tests.
- Parents will become more actively involved at an earlier time with the total education of their children.
- Students will demonstrate more positive self concepts.

PROGRAM AREA: English Language Arts
CONSIDERATION: Curriculum

PRESENT STATUS

The basic philosophy of the English Language Arts program is that each of the communication skills: speaking, listening, reading and writing, is presented in an integrated way. Goals and objectives, with accompanying scope and sequence charts, have been developed for each skill area.

The language arts program in the elementary school seeks to provide integrated language experiences that consider individual needs, abilities and interests. In order to provide sufficient time for a concentrated effort of integration of skills, a block of time is allotted specifically for the development of language arts skills. For grades 1-3, the weekly time allocation is 740 minutes; for grades 4-6, the time is 600 minutes.

According to A Guide for Teaching in the Elementary School, recommended time allocations for a balanced program within the weekly schedule are:

	Primary Grades	Intermediate Grades
Total Language Arts	740 min.	600 min.
Reading	450	300
Oral/Written Language	80	120
Handwriting	80	40
Spelling	80	80
Literature	50	60

Principals are urged to have a cohesive language arts program; therefore, one teacher should be primarily responsible for the planning and the teaching of a student's total language arts program. In those schools where some other scheduling pattern now exists, compliance with county policy should begin during the 1980-81 school year.

Reading is the focal point of the elementary language arts program. The reading goals and objectives provide the organizational framework for the county program. Basic reading materials are selected for their correlation to these goals and objectives. In selecting approaches and planning instructional strategies, teachers are urged to consider the strengths of the individual student and provide a systematic program that ensures continuity in skill development. Student achievement is the primary consideration for determining continuation or modification of program. Major responsibility for reading instruction in elementary schools lies with the regular classroom teacher. Support services for reading are provided by 21 county-funded reading resource teachers, 29 Title I reading resource teachers, and nine ESAA reading teachers. There are approximately 200 Title I aides who provide special services to schools with specific needs.

The distribution of services provided by reading resource teachers to the 74 elementary schools during the school year 1979-1980 follows:

Schools with county-funded only	20
Schools with Title I only	19
Schools with ESAA only	0
Schools with county-funded and Title I	3
Schools with county funded and ESAA	3
Schools with Title I and ESAA	7
Schools without reading resource teachers	21

The role of the reading resource teacher varies from school to school. Some teachers work exclusively with students, some work with teachers and some work with teachers and students.

Goals and Objectives in Writing, (June 1974), Scope and Sequence in Writing and Teaching Writing Skills in Grades 1-6, (1976), provide the guidelines for writing in the elementary schools. The writing process is taught developmentally, beginning in the primary grades. Basic skills in handwriting, spelling, grammar, usage and mechanics are taught as components of the writing process and utilized in varied writing experiences.

The scope and sequence for listening and speaking are outlined in Goals and Objectives for Speaking and Listening, (August 1976). Speaking and listening experiences precede those in reading and writing and are integrated with the content of the reading and writing components. Emphasis is placed upon listening for specific information, on expressing oneself clearly and logically, and on using standard language forms and patterns.

The language arts curriculum for the middle/junior high schools is organized around themes or topics which reflect a wide range of student interest. For each unit, teachers have the flexibility to select content, but a required sequence of skills must be maintained. There are four major skill sequences for grade 6, four for grade 7, and four for grade 8. Each of the sequences has two units from which teachers are required to select at least one. Each unit contains objectives in reading/literature, in writing, and in speaking/listening. Reading or literature activities are the basis for related writing, for oral work, and for additional reading. Writing activities provide the basis for specific work in grammar, usage, and mechanics.

The curriculum guides for grades 6, 7, and 8 are tentative; revision is scheduled for the near future to provide for a greater specificity of skills, especially in areas such as grammar. A revised 9th grade curriculum guide organized around themes or topics is scheduled for completion by September, 1980.

The curriculum for grades 10-12 is organized into a non-graded phased elective program entitled Phased Anne Arundel County English (PAACE). The PAACE curriculum is organized into three categories: Composition, Reading and Literature, Speech and Drama. Courses are organized into three phases that indicate the level of difficulty and the degree of language competence required for successful completion. All the courses, regardless of the skill emphasis inferred by their titles, are designed for an integration of skills. There are 55 course offerings within the PAACE curriculum; however, the average number of courses offered by schools in a given semester is 24. In 1976 and 1978, the coordinator of English Language Arts asked teachers to share their general reaction to the PAACE curriculum. The results were:

	1976	1978
o retain PAACE in its present form	12	18
o retain PAACE with minor changes	43	55
o retain PAACE with major changes	34	15
o return to English II, III, and IV	11	13

The Maryland State Department of Education requires that all students earn four English credits for graduation. In addition to one credit at grade 9, the Anne Arundel County School System requires students to earn one credit in composition, one credit in reading or literature, one-half credit in speech or drama, and an additional one-half credit in any one of the three areas. These courses are designed to be taken in a specified order:

Grade 10: A composition course
A reading/literature course

Grade 11: A composition or speech/drama course
A reading/literature course

Grade 12: A composition or speech/drama course
An additional course in any of the three areas

Curriculum guides have been written for most PAACE courses; currently, there are 16 courses without countywide guidelines developed through the Department of Curriculum. Future plans include development of these countywide course guides. While most of these courses are usually highly specialized and have limited enrollments, there are some which are offered throughout the county. Among these courses are Journalism I, Journalism Production: Newspaper, Journalism Production: Yearbook, Creative Writing and Major British Writers.

Countywide evaluation of the language arts program is accomplished partly through the use of standardized test scores. According to the Office of Pupil and Program Evaluation, an analysis of test results of the Cognitive Abilities Test (CAT) and Iowa Test of Basic Skills (ITBS), nationally normed tests, indicates the following trend since 1976:

> There has been consistent improvement in performance at each grade level on the sub-tests (Vocabulary, Reading Comprehension and Language Total).
>
> The average county language total scores have increased at each grade level 3, 5, 7, 9 since 1974. The greatest rate of growth is at grades 3 and 5.

The Maryland State Department of Education requires that beginning in 1982, all graduates pass the Maryland Functional Reading Test. The test requires that students demonstrate minimum competencies in five areas: Following Directions, Location References, Gaining Information, Understanding Forms and Attaining Personal Development. Minimum competency on the test is 80 percent. One form of the test is given to seventh graders for the purpose of identifying students for reading assistance classes. At the ninth grade level, students have their first opportunity to take the test for the purpose of meeting the state requirement. Those who receive a grade lower than 80 percent have additional opportunities to pass the test in Grades 10, 11 and 12. Students not passing the test at grade nine or in subsequent years are assigned to reading assistance classes. The Phase 1 reading/literature classes of PAACE meet the requirement for Reading Assistance Programs.

Test results from 1975 through 1979 indicate the percent of county for students at each grade level who achieve competency levels of 80 percent or better on the Maryland Functional Reading Test:

	1975-76	1976-77	1977-78	1978-79	1979-80
Grade 7	69	71	76	79	81
Grade 9			81	82	
Grade 11	86	92	92	*	

*Grade level testing not required for all 11th graders.

A review of the scores on the Scholastic Achievement Test (SAT) Verbal, Test of Standard Written English (TSWE) (a required part of the SAT) and Achievement Test: English Composition (a sub-test) shows that since 1975, county seniors have scored above the state or national norms.

Scholastic Achievement Test (SAT) Verbal

	1975-76	1976-77	1977-78	1978-79
National	431	429	429	427
State	432*	431*	428**	426**
Anne Arundel	437	435	437	434

*Includes public and nonpublic schools
**Includes public schools only

Maximum score on SAT = 800

Test of Standard Written English (TSWE)
(Subtest of SAT)

	1975-76	1976-77	1977-78	1978-79
National	43.1	42.9	42.8	42.5
State	43.2	43.1	43.1	42.6
Anne Arundel	43.1	43.4	43.6	42.9

Maximum score on TSWE = 60

Achievement Test: English Composition
(SAT Option)

	1975-76	1976-77	1977-78	1978-79
National	532	516	512	514
State	562	531	540	541
Anne Arundel	553	545	540	541

Maximum score on Achievement Test = 800

The instructional staff for English Language Arts includes 1,046 teachers in elementary schools and 371.1 teachers in secondary schools. This represents the largest staff of all program areas. Supervision of the English Language Arts Program is the responsibility of the coordinator of English Language Arts. The reading program, a component of the English Language Arts program, is the primary responsibility of the coordinator of reading.

Staff development for teachers is accomplished through workshops, meetings with department chairpersons, meetings with specific group of teachers and, especially in the elementary schools, with entire faculties.

At least one one-credit language arts workshop has been offered each semester and each summer since 1975 addressing the components of reading, writing and literature. The reading and the literature workshops have consistently been cancelled due to insufficient enrollment; the writing workshop was presented four times from 1976 to 1978. Three-credit workshops in reading have been offered and presented on a regular basis since 1975.

MAJOR RESEARCH FINDINGS

A review of the research and literature produced the following findings:

* *The solution to the problem of dealing with the call for a return to "basics" is not the elimination of all elective programs but the redesign of these programs. It has been noted that some of the same deficiencies noted in the elective curriculum are also found in a more traditional curriculum.*

* *The National Council of Teachers of English (NCTE) recommends a teacher workload of not more than 100 students.*

* *Teaching grammar in isolation is not teaching writing. There is no correlation between ability to describe language and ability to use it.*

* *Skills such as spelling, handwriting, punctuation and grammatical usage are developed during the writing process and secondarily through related exercises.*

* *The most important factor related to success in beginning reading programs is the teacher. Teachers are the main difference in the reading process and their commitment to their class is paramount.*

* *Reading skills are still the number one requisite for grade promotion across the country.*

* *Differences in learning styles and abilities of children indicate a need for a variety of approaches and materials to meet individual needs; no single method or technique has proven to be the most effective for all children.*

* *Differences in learning time have direct consequences for reading achievement. There is a positive and significant correlation between time spent on relevant reading tasks and reading comprehension.*

* *There is a close association that exists between scores on vocabulary tests and scores on measures of reading achievement.*

* *Educators usually agree that the outcome of reading should be comprehension. Comprehension is not an isolated skill, but the outcome of a number of component skills that are interrelated and interdependent. (These skills include word recognition, vocabulary knowledge, prior word knowledge and organizational skills.)*

* *Based on the reading assessments in 1971 and 1975, the National Assessment of Educational Progress (NAEP) found that reading skills of 9-year-olds have improved significantly, while 13- and 17-year-old readers have remained at the same achievement level.*

* *Based on the writing assessments in 1975, the National Assessment of Educational Progress (NAEP) found that there is a low level in basic writing skills among 17-year-olds. When writing about a personal point of view, 61% are successful; 31% can write adequately when a point of view must be defined and logical arguments developed to defend it.*

* *There has been increased emphasis on inservice programs to improve teacher preparation in writing instruction. Teachers are given a full range of specific approaches and write as if they were the students who will receive the instruction.*

* *Some essential elements in a good language arts program are:*

1. *Observable sequence of skills taught within each grade and from grade to grade.*
2. *Active involvement of students in language learning.*
3. *Lessons that reflect recent research findings in the teaching of language arts.*
4. *Lessons that reflect specific teaching of speaking and listening skills.*
5. *Composition that is taught, rather than assigned.*
6. *Lessons that reflect an integration of skills and content.*

RECOMMENDATION

Course work in English Language Arts is required of every student every year (K-12.) While the content of the overall program is designed for students of varying abilities and interests and the philosophy of presenting the communication skills in an integrated manner is in line with research, it appears that a major problem does exist in the area of curriculum development. While efforts are proceeding to correct this problem at the middle/junior level, it is imperative that the school system provide the funds and personnel to develop course guides at the senior high level for those 16 PAACE courses now being offered without guides. Each student must be assured of a consistent program throughout the county. Additionally it is just as important that teachers be aware of countywide consistency for the courses they teach. Therefore, the Committee recommends:

* REFINEMENT OF THE ENGLISH LANGUAGE ARTS CURRICULUM AND IMPLEMENTATION OF INSTRUCTIONAL PRACTICES TO ENSURE THAT AN APPROPRIATE SCOPE AND SEQUENCE OF SKILLS IS BEING OFFERED TO ALL STUDENTS AT ALL LEVELS.

In implementing the above recommendation, the Committee proposes:

1. Review of course content for grades 10-12 to identify and eliminate duplication of specific content and/or courses.

2. Development of course outlines for all courses which lack curriculum guides in the senior high school offerings for grades 10-12.

3. Completion of the curriculum guides for middle school and ninth grade.

4. One teacher be responsible for planning and teaching of a student's language arts program in all elementary schools.

5. Broader range of workshops be available to meet the needs and interests of all English Language Arts teachers.

6. Countywide evaluation of student performance of listening and writing, two skills not currently being evaluated.

7. Establishing a staffing ratio of 20 students per teacher in composition classes.

The foregoing recommendation will require:

a. Released time and sufficient personnel for curriculum development.

b. Continued integration of the communication skills.

c. Increased emphasis on instruction in writing as a clear and identifiable part of the total language arts.

d. Maintaining reading as the focal point of the language arts program with increased emphasis on the development of all comprehension skills.

e. Increased emphasis on the development of listening skills at all levels.

f. Increased attention to oral language development as a basis for all reading and writing.

OUTCOMES

With adoption of this recommendation, the following outcomes are projected:

- A clearly defined scope and sequence of skills will be available for all courses creating more continuity countywide in the English Language Arts program.

- Students will demonstrate the ability to listen for different purposes.

- Students will demonstrate the ability to write in response to a variety of school assignments and societal tasks.

- Teachers at all levels will use oral language development activities as a basis for reading and writing instruction.

- Students will demonstrate an improvement in reading comprehension.

PROGRAM AREA: English Language Arts
CONSIDERATION: WRITING IN CONTENT AREAS

PRESENT STATUS

All content areas require students to use their writing skills, and teachers are encouraged to include writing activities in their instruction. Yet there has been increasing pressure and concern surrounding the whole issue of effective writing. Communities everywhere have expressed this concern. Teachers, too, both in this county and elsewhere, have addressed themselves to what they perceive to be a decline in the general writing ability of many students. Finally, the school system's own drive toward excellence, following the goals established by the superintendent and the Board of Education, creates an implicit demand for improvement in this area.

Staff development to help teachers outside of the English Language Arts develop skills and strategies for writing in specific content areas has been scattered. Training sessions have been confined to single meetings with school faculties or individual departments, and have been scheduled only at the request of the schools. A guide distributed by the English department which gives suggested activities for writing in content areas is available for teachers to use with grades 5-9, but may be adapted for use with students in higher grades.

MAJOR RESEARCH FINDINGS

A review of the literature produced the following findings:

* *There is a lack of reinforcement of writing skills by teachers outside the English department.*
* *The major responsibility for writing instruction belongs to the English department, but other faculty members need to reinforce the skills developed in the English language arts program.*
* *Teachers of all subject areas need to promote their students' communication skills.*
* *Teachers of English can provide services and programs to assist other subject area teachers in the teaching of writing.*
* *Writing serves both public and personal needs of students and it deserves a cooperative and continuing effort of all teachers.*
* *To be effective, a basic skills writing program requires writing in all areas of the curriculum and provides teachers with the training to integrate writing in their subject areas.*

RECOMMENDATION

Effective writing skills are developed when students are given the opportunity to write. Although all content areas require students to use writing skills, it appears that in many cases, this writing is restricted to objective type exercises, such as fill-in-the-blanks, multiple choice, and true-false. Additionally, directions in workbooks tell students to circle, underline or draw a line. The primary concern of teachers outside of English language arts is that they feel they do not know how to teach writing. If all content teachers are to be aware of good writing skills and feel secure about helping students develop these skills in their areas, the school system must provide appropriate inservice activities which lead in this direction. Therefore, the Committee recommends:

* INCREASED EMPHASIS ON WRITING SKILLS IN ALL CONTENT AREAS.

In implementing the above recommendation, the Committee proposes:

1. Development of a continuous inservice program for all teachers to help students do a more effective job of writing in content areas.

2. Implementation of teaching strategies developed in the aforementioned inservice programs.

The foregoing recommendation will require:

a. Staff development within each content area, provided by the program coordinator, to develop strategies to improve writing skills.

b. Inclusion in all content areas, as curriculum is being developed or revised, of special writing assignments correlated with skills and abilities identified in the English Language Arts Scope and Sequence document.

c. Greater awareness on the part of teachers of what good writing entails, and greater insistence by them that these qualities be exhibited by students in all written work.

d. Revision of the guide for suggested activities for writing in content areas now available for grades 5-9 and expansion of the guide to include specific activities for all other grades.

With the adoption of this recommendation, the following outcomes are projected:

1. All teachers will become aware of methods to incorporate writing skills in their classes and will use this knowledge in making assignments.

2. Students will do more writing assignments in all classes.

3. Students will improve their writing skills.

PROGRAM AREA: FOREIGN LANGUAGES
CONSIDERATION: Community-Based Experiences

PRESENT STATUS

Through the foreign language program, students gain skills to communicate effectively in a foreign language. Students are given many opportunities to practice these skills through daily classroom activities. Also, students are encouraged to use the language whenever they can. In some neighboring counties, foreign language students work in the community, providing service while using language skills. However, in Anne Arundel County, there is no program sponsored by the school system through which students directly apply skills and knowledge acquired in the classroom while performing volunteer services to the community. Foreign language students can be of assistance to the community by helping foreign-speaking clients fill out forms, performing telephone services and giving directions. Some possible community sources where students can be of service are airports, hospitals, welfare agencies, police stations, fire stations, and tourist agencies.

The International Volunteers In Service (IVIS) at Baltimore-Washington Airport has expressed a need for high school volunteers. In October, 1979, an IVIS representative made a sound-slide presentation to foreign language students at Meade Senior High School. Many of these students expressed an interest in the program; however, due to lack of coordination, there was no implementation.

MAJOR RESEARCH FINDINGS

The professional literature has not addressed the idea of work experience specifically in foreign languages. However, the Carnegie Report, Giving Youth A Better Chance (1979), contains a recommendation which is applicable:

> * *Create work and service opportunities for students as part of their high school program, making performance part of the student record. Renew emphasis on student out-of-class activities.*
>
> * *Foreign language educators are becoming increasingly aware of the need to take their academic discipline out of the immediate classroom.*

RECOMMENDATION

There is an increased effort to provide educational programs that take place outside of the conventional classroom where students are involved in service-learning activities. The

foreign language student should not be excluded. Frequently, the knowledge of a foreign language opens doors to career opportunities; therefore, to make the foreign language program more meaningful to students, the Committee recommends:

* DEVELOPMENT OF A PROGRAM TO ALLOW STUDENTS TO APPLY THEIR LANGUAGE SKILLS WHILE WORKING AS VOLUNTEERS IN THE COMMUNITY.

In implementing the above recommendation, the Committee proposes:

1. Providing the opportunity for all senior high schools to participate in a community-based experience program.

2. Official recognition of students participating in a community-based experience program.

The foregoing recommendation will require:

a. Surveying the community to assess need and availability of such a program.

b. Surveying high school students who have completed at least three years of a foreign language to assess interest in such a program.

c. Designating a foreign language teacher in each participating school to coordinate the program.

d. Awarding certificates for participation in this program and noting the participation on students' permanent records.

OUTCOMES

With adoption of this recommendation, the following outcomes are projected:

- Students will have greater opportunities to use foreign language skills.

- Students will have a greater knowledge of career opportunities in foreign languages.

- Students will broaden their vocabulary.

PROGRAM AREA: Foreign Language
CONSIDERATION: ELEMENTARY SCHOOL PROGRAM

PRESENT STATUS

The foreign language offerings in Anne Arundel County are French, German, Latin and Spanish; students may begin a foreign language as early as grade six (in middle schools only) with the Exploratory course. However, instruction in a foreign language below grade six is limited to foreign language experience (LEX), a pilot program now in its third year in 18 elementary schools located in one area of the county. The purpose of the program is to develop language and cultural awareness at the elementary level. Major offerings are French, German and Spanish. Staffing for the elementary pilot program consists of classroom teachers, parent volunteers and language students from Severna Park and Chesapeake Senior High Schools. Inservice for the volunteers and the students was conducted by the coordinator of foreign languages.

In November, 1979, the Board of Education accepted a proposal, calling for six itinerant teachers to offer 30 minutes of instruction each week to fourth graders. The curriculum for the proposed elementary program included French, German, Italian and Spanish. However, the proposal was not funded for the school year 1980-81; and therefore, the LEX program will continue.

MAJOR RESEARCH FINDINGS

A review of the research and literature produced the following findings:

* *Special emphasis should be placed on foreign languages in the elementary grades because it is in early childhood that basic attitudes are formed, the beginnings of language comprehension are put into place, curiosity is at its peak, and the foundations are laid for further learning.*

* *The ability to learn a language with ease decreases year by year until the child has reached his late teens, when it reaches its lowest level. Unfortunately, that is when foreign language instruction usually begins.*

* *Language study should begin in the early grades, but its effectiveness depends upon the time devoted to it, a manageable class size, a supportive atmosphere, well trained teachers and the careful integration of early language study with higher levels of study.*

* *In a nationwide survey, over 75% of the respondents wanted foreign languages offered in elementary schools.*

* *There is a serious deterioration in this country's foreign language capacity.*

* *Instruction in foreign languages and cultures has "virtually disappeared" from the elementary school.*

* *Elementary school foreign language programs are beginning to experience a new period of growth. There are wide varieties of models to choose from, each permitting a vast range of goals which incorporate many of today's educational priorities.*

RECOMMENDATION

Foreign languages should be viewed as an integral part of the basic education of all students. Students at all grade levels should have the opportunity to learn a foreign language. Beginning a language in the elementary school will have dual outcomes: students will be able to take more than one foreign language and students will have an opportunity to increase their years of foreign language study. Therefore, the Committee recommends:

* IMPLEMENTATION OF THE FOREIGN LANGUAGE PROGRAM IN ALL ELEMENTARY SCHOOLS, BEGINNING AT GRADE FOUR.

In implementing the above recommendation, the Committee proposes:

1. Allotting 30 minutes per week in the elementary school program for foreign language instruction.

2. Completion of curriculum development for the languages to be offered.

3. Staff development for principals and classroom teachers.

The foregoing recommendation will require:

a. Additional staffing.

b. Sufficient time and personnel for curriculum development.

OUTCOMES

With adoption of this recommendation, the following outcomes are projected:

- Students will have a longer language experience.
- Students will be able to study independently a specific content which is beyond the range of the regular sequential foreign language program.
- More students will study more than one foreign language.

PROGRAM AREA: Foreign Languages
CONSIDERATION: English For Speakers of Other Languages (ESOL)

PRESENT STATUS

The Anne Arundel County Public School System seeks to meet the needs of its non-English speaking population by providing classes in English for Speakers of Other Languages. ESOL is designed to help non-native speakers of English communicate effectively with their peers and become part of the mainstream of the school and society as quickly as possible.

The curriculum for all levels includes the development of the linguistic skills of listening, speaking, reading, and writing. The skills are taught within the context of culture and traditions in the United States. The curriculum guide for ESOL is a comprehensive account of scope and sequence which gives the philosophy, program objectives, and suggested activities.

There are approximately 250 students who receive instruction in ESOL at least twice a week. An individual program for each student is planned according to the results of a diagnostic/prescriptive procedure in which the ESOL teacher assesses the student's proficiency in listening, speaking, reading and writing. Based on the results of this process, the ESOL teacher prescribes specific content objectives matched with the desired skills of the county's curriculum. Throughout the school term, the teacher indicates on a checklist the specific linguistic skills which have been achieved.

In addition to developing linguistic skills, the ESOL teacher makes an effort to improve the student's self-image. To dispel the ESOL student's initial feelings of fear, anxiety and frustration, the ESOL teacher encourages the classroom teacher to establish a buddy-system. The buddy provides peer tutoring and reassurance for the ESOL student. Individualized tutoring is also provided by volunteers recruited by principals.

Making native English-speaking students aware of other cultures is an ESOL teacher's priority. This year, the ESOL staff implemented a multicultural program in all elementary schools having an ESOL population. The ESOL teacher presented cultural lessons on countries represented by ESOL students, who are actively involved in the lesson. The ESOL staff has developed lessons on Japan, Korea and Vietnam and is now developing a multicultural soundslide presentation.

Reading is a primary concern of the ESOL teachers in the middle/junior high schools. Many of the ESOL students enter a middle or junior high school with a severe deficiency in reading in English; many are unable to read English at all. The problem is further complicated by the fact that some students have a different alphabet or their native language does not use the left to right method for reading. Once a student's reading level is determined, it is difficult to find materials at that level which are appropriate to his age group. The ESOL teacher has the task of developing reading activities and securing materials for the ESOL student.

There are seven itinerant ESOL teachers who render services to students in elementary, middle and junior high schools. In senior high schools, where there are few ESOL students, the teacher for ESOL may (and usually does) come from the foreign language department. Of the seven teachers, one position is funded by the county, one is funded by Title I and five are funded by the Maryland State Department of Education through Title IV. The financial assistance for Title IV is projected to decrease yearly and will phase out in 1982.

Each teacher has an assigned cluster of schools and visits each school on alternate days. Time spent in each school depends on the number and proficiency level of students. The ESOL teacher seeks to have communications with other teachers responsible for the education of students. However, due to scheduling conflicts, it is difficult to establish and maintain a regular conference time for discussing students' needs and progress.

The ESOL staff meets once a month with the coordinator of foreign languages to share ideas, discuss current trends, solve problems and demonstrate effective techniques. A bi-annual newsletter provides classroom teachers and principals with current trends and important events in ESOL.

A three credit workshop in teaching strategies for ESOL has been held at least once each year since 1977. This workshop is open to all teachers and administrators.

MAJOR RESEARCH FINDINGS

A review of the research and literature produced the following findings:

* *There are an estimated 28 million persons in the United States with non-English language backgrounds; an estimated 2.4 million persons in the United States do not speak English at all. The number of refugees continues to increase, adding to an already established population which has little or no proficiency in English.*

* *ESOL instruction helps these groups adjust to and function within society, while at the same time recognizing the importance of their native language and culture.*

* *The ESOL teacher and the classroom teacher must establish a basis for articulation. Whenever possible, the two teachers should acquaint each other with the specifics of their respective curricula.*

* *The United States is now moving toward cultural pluralism with diverse values and behaviors becoming increasingly important. ESOL teachers must promote an intercultural awareness in the classroom, preferably involving as much as possible the non-English speaking student in informing others about his culture.*

RECOMMENDATION

There is a diverse non-English speaking population enrolled in the county schools. These students with varying levels of proficiency in English are enrolled in elementary, middle/junior and senior high schools. If these students are to function as worthwhile members of the school and community, the students must be able to communicate with others. Therefore, the Committee recommends:

* CONTINUATION OF THE ESOL PROGRAM ON AN ITINERANT BASIS.

In order to implement the above recommendation, the Committee proposes:

1. Arranging for reading specialists to work with the ESOL staff and with students at the middle/junior high school and elementary school level.
2. Including a scheduled time period in each ESOL teacher's workload for planning and articulation with classroom teachers.
3. Continued use of volunteers from the community to implement follow-up and remedial activities on a regular basis.
4. Expansion of the multicultural program to elementary schools with no ESOL population.
5. Expansion of the multicultural program to involve other disciplines (art, music, physical education, home economics, etc.).
6. Staff development for regular classroom teachers.

The foregoing recommendation will require:

a. Inservice activities for the volunteers.

b. Increasing the number of ESOL teachers.

OUTCOMES

With adoption of this recommendation, the following outcomes are projected:

- ESOL students will be able to achieve greater success in their coursework.

- ESOL students will have greater opportunities to share information about their native countries.

- Native English-speaking students and teachers will have greater opportunties to learn about a foreign culture.

PROGRAM AREA: Foreign Languages
CONSIDERATION: Exchange Programs

PRESENT STATUS

There is no program sponsored by the Anne Arundel County Public Schools in which county teachers and their foreign counterparts exchange teaching assignments. Neither is there such a program for students. Students who do go abroad to study are usually sponsored but not fully financed by an organization such as the American Field Service (AFS).

An initial effort to initiate such a program took place in June, 1979, when eleven students and their teacher from Annapolis Senior High School participated in an exchange program with a school in France. The students spent ten days as guests of their French pen-pals in Chambery, France. The French students and their teacher will reciprocate the visit for a three week sojourn here in August, 1980.

MAJOR RESEARCH FINDINGS

A review of the research and literature produced the following findings:

* *Most of the exchange programs for students and teachers are held at college/university level.*

* *Being an exchange teacher is an educationally and culturally rewarding experience.*

* *One of the best ways to learn the nuances of another culture is to live in the country of that culture's origin.*

* *Exchange programs set up on a reciprocal basis are a good way to reduce the cost of study abroad.*

The President's Commission on Foreign Language and International Studies (1979) addressed the importance of international exchange.

* *Support should be given for the participation of outstanding language teachers and students in programs for study abroad.*

* *Exchange programs expand opportunities for teachers to live and study abroad so that their teaching about them is realistic and current.*

* *Exchange programs contribute uniquely to encouraging informed views of America in other lands.*

* *United States participation in exchange programs is declining at a time when other nations are expanding their efforts.*

RECOMMENDATION

Foreign language educators agree that one of the best ways to learn a language and the nuances of a culture is to live in the country. Exchange programs, which can be viewed as an extension of the instructional setting, provide a means to do this. While a number of benefits are derived from allowing foreign language students and teachers to study abroad, the cost of this venture is prohibitive for most who would like to take advantage of the program. Exchange programs which are established on a reciprocal basis reduce the cost incurred by participants. In following a pursuit for excellence for foreign language teachers and students, the Committee recommends:

* IMPLEMENTATION OF A TEACHER/STUDENT EXCHANGE PROGRAM.

With the adoption of the foregoing recommendation, the Committee proposes:

1. At least one teacher each year be given the opportunity to teach abroad on a reciprocal basis.
2. At least two advanced-level students be given the opportunity to live abroad for six weeks during the summer on a reciprocal basis.
3. Expansion of the program to include teachers/students from other instructional areas.
4. Staff development for participants.
5. Awarding credit toward graduation to participants in the program.

The above recommendation will require:

a. Identifying criteria and guidelines for selection of and awarding credit to participants.

b. Negotiating with foreign school systems to arrive at terms for the exchange.

OUTCOMES

With adoption of the foregoing recommendation, the following outcomes are projected:

- Teachers and students will increase their linguistic skills.
- Teachers and students will have an increased cultural understanding.
- Teachers will reflect in their teaching the contemporary and relevant aspects of various cultures.

PROGRAM AREA: Foreign Languages
CONSIDERATION: Introduction of the Less Commonly Taught Languages

PRESENT STATUS

The Modern Language Association (MLA) Task Force on the Less Commonly Taught Languages defines those languages as all languages other than English, French, German, Italian, Latin and Spanish. There are no less commonly taught languages in the foreign language curriculum of the Anne Arundel County Public Schools. Present offerings include French, German and Spanish in the middle, junior and senior high schools; Latin is offered in the senior high school. The proposed languages for the elementary school program include French, German and Spanish, but others may be considered depending upon teacher language strengths and student interest.

A survey was conducted during the Fall of 1979 with students enrolled in Level 4 and 5 courses to find out the interest level of students toward having a course in Russian. The results of the survey showed that about fifty percent of those surveyed expressed an interest in Russian.

The Board of Education approved a request to pilot a beginning course in Russian at Chesapeake Senior High School in September 1980. At the same time, the Board approved the curriculum for the course. Four teachers in the county are certified in Russian.

MAJOR RESEARCH FINDINGS

A review of the research and literature produced the following findings:

* *One percent of the nation's secondary school foreign language students were enrolled in less commonly taught language courses.*

* *The less commonly taught languages are spoken by over 80% of the world's population; several of these languages have been classified as critical from the point of view of the national interest of the United States.*

* *The Modern Language Association (MLA) Task Force on the Less Commonly Taught Languages (1978) recommended the promotion and development of instruction of Arabic, Chinese, Japanese and Russian in secondary schools.*

RECOMMENDATION

The importance of offering less commonly taught languages in our system is shown by the fact that over eighty percent of the world's population speaks a less commonly taught language. At the same time, the United States is becoming increasingly involved in business and world affairs. Also, Americans have greater opportunities for traveling abroad to countries where a less commonly taught language is spoken. To prepare students to live in this changing world, the foreign language program is a means by which this can be accomplished. The pilot Russian Level I course at one senior high school indicates that the school system is moving in the right direction. Therefore, the Committee recommends:

* OFFERING AT LEAST ONE OF THE LESS COMMONLY TAUGHT LANGUAGES IN EACH OF THE SENIOR HIGH SCHOOLS.

In order to implement the above recommendation, the Committee proposes:

1. Developing curricula for the less commonly taught languages.
2. Providing inservice activities for teachers of these languages.
3. Staffing patterns to meet program needs.
4. Ensuring that students have the opportunity to follow at least a two-year sequence of a less commonly taught language.

The foregoing recommendation will require:

a. Sufficient time and personnel for curriculum development.

b. Consideration be given to staffing on an itinerant basis.

OUTCOMES

With adoption of the foregoing recommendation, the following outcomes are projected:

- Students' career opportunities will increase in scope.
- Students will have greater opportunities to pursue their language interests.
- More students will learn a less commonly taught language.

PROGRAM AREA: Gifted/Talented/Advanced Programs

PRESENT STATUS

There are essentially two kinds of programs aimed at assisting high ability students in Anne Arundel County. These are: advanced programs, designed to meet the needs of students capable of handling above average work; and programs for the gifted and talented, designed to meet the needs of students with outstanding ability in one or more of the following areas: general intellectual ability, specific academic aptitude, visual or performing arts, creative or productive thinking, and leadership.

Advanced programs include, but are not necessarily limited to, college preparatory courses. There are, for example, advanced programs in physical education, industrial arts and music. Included in the category of advanced programs is the Advanced Placement (AP) Program of the College Board, which dictates course content and provides examinations in art, English, foreign language, history, mathematics, music and science. Students receiving an acceptable score on an advanced placement exam may receive advanced standing and/or credit for as much as two semesters of college work in the area tested. Qualifying scores differ from college to college. By taking full advantage of the advanced placement program, a student could enter college with sophomore standing.

Currently, four courses have been established in Anne Arundel County's public schools specifically under the College Board's Advanced Placement Program. These are designated in the standard course description guide as AB Calculus, BC Calculus, AP Modern European History and AP United States History. Additionally, some advanced courses, such as advanced chemistry, are often used to prepare students for AP exams.

Roughly 20% of the total school population could participate in advanced placement programs or courses used to prepare students for AP exams, using the 1979-80 scores on the non-verbal battery of the Cognitive Abilities Test as a rough indicator. Fewer than 10% of high school juniors and seniors were enrolled in such advanced programs during the same year. Further, less than one quarter of the students enrolled in advanced placement courses, or those used to prepare students for the exams, opted to take the advanced placement exams upon completion.

These exams are offered to students at their own cost. However, discussions are presently underway for the county to make the exams free of charge to students.

Gifted/talented programs incorporate essentially two instructional strategies: acceleration and enrichment. For the purposes of this paper, acceleration is defined to be movement by students through course content at a faster pace than normally accomplished. Nothing is added to or deleted from the course, the student simply finishes earlier and is then allowed to move on to the next course in sequence. Enrichment, on the other hand, infuses into a course challenging content not usually found there and activities requiring higher level thinking processes. Essentially, then, acceleration is an upward movement through curriculum, whereas, enrichment is a lateral movement through broader content at any given curriculum level.

Programs specifically designed for gifted and talented students in the county currently consist of two types: programs developed at individual schools and offered by classroom teachers, and adjunct enrichment programs meeting at given intervals over a specified period of time during, as well as outside, regular school hours. There are at present no programs offered on a countywide basis which provide daily learning opportunities

throughout the school year for gifted and talented students with the exeption of the advanced placement program. Individual school based programs vary from location to location, depending on the interests and motivation of the individual school's staff.

The adjunct programs described above are offered to all students countywide who qualify, and are centrally coordinated by the school system. They are not, however, offered on a daily or regular basis and consist mainly of "occasional" enrichment opportunities which do not provide mechanisms needed if students are to take advantage of their new experiences in their regular classwork. Additionally, participants in these programs often find themselves, once back in the regular classrooms, confronted with material they find too easy or uninteresting.

Nevertheless, the countywide enrichment programs provide opportunities for growth which many gifted and talented students would otherwise not have. These countywide programs include:

- the cultural arts program (K-12)
- critical thinking and problem solving (K-8)
- the great books program (2-12)
- logic (4-6)
- the pursuit of excellence program (11-12)
- futuristics (6-8)
- the Maryland Academy of Science Program (7-12)
- the leadership program (6-9)
- the U.S. Naval Academy Program in Mathematics and Science (7-9)
- editor's seminar (10-12)

In addition to these county programs, other learning opportunities used by county gifted/talented students are provided by the Johns Hopkins University through its Study of Mathematically Precocious Youth (SMPY), the Maryland State Department of Education through its summer institutes, and by local colleges and universities through part-time enrollment.

The Johns Hopkins University conducts a talent search each year to locate SMPY participants. Students identified by the school system are eligible to participate in the talent search; participation does not, however, guarantee acceptance into the SMPY program. In 1977, 49 Anne Arundel County students participated in the talent search. A year later, that number rose to 55 and in 1979, Anne Arundel County supplied 90 participants. Target students for the search are 7th and 8th graders. Those scoring in approximately the top ½ percentile on the mathematics portion of the Scholastic Aptitude Test are eligible to participate in special fast-paced mathematics courses offered at the university.

The Maryland State Department of Education, in 1979, enrolled 170 Anne Arundel County students in its summer institutes, and 140 county students in 1980. Summer programs with 1980 Anne Arundel County enrollment figures follow:

- liberal arts (36)
- environmental science (5)
- leadership development or research science internships (12)
- French (2)
- internships in economics (1)
- astronomy and computers (2)
- sound (4)

- energy (5)
- art (31)
- dance (11)
- drama (14)
- chorus (1)
- concert band (3)
- jazz (2)
- music (9)
- orchestra strings (2)

Fewer than 20 Anne Arundel County Public School students enrolled part-time in a college or university in 1980.

Identification of gifted/talented students is a key component of the total program. Countywide criteria for student placement in gifted/talented programs consist of a score of 125 or better on the non-verbal battery of the Cognitive Abilities Test, and -- depending upon the program the student wishes to enter -- a score in the top 5% (based on national norms) in the appropriate sub-test of the Iowa Test of Basic Skills. Sub-tests used are reading comprehension, mathematics concepts, and mathematics problem solving.

In addition to these countywide standards, other means of identification have been used in individual schools. These procedures, which vary from school to school, include: teacher recommendations, peer nominations, student achievement in class, student projects, and referrals from parents, administrators and guidance counselors.

A Comprehensive Screening Inventory was developed by the county school system in 1979 in an effort to improve the county's gifted/talented identification procedures. This instrument has been pilot tested and was revised in 1980. The inventory was designed for use at the elementary level only and consists of 28 student characteristics organized into four domains: high academic potential/high performance; visual arts; performing arts; and high academic potential/low performance. The inventory was developed to provide data which can be used to form a screening pool of potentially gifted students and was designed to take the culturally diverse and low achievers into account when searching for the gifted. Additional criteria such as scores on standardized achievement tests and aptitude tests, and student interest, must be applied prior to placement in specific gifted/talented programs.

Once students are identified for participation in gifted/talented programs, it is obviously important to ensure that they are, in fact, enrolled in appropriate classes. It is unclear whether this is indeed happening. A systematic record keeping procedure is under development, however, so that the progress of all students identified as gifted and talented in one or more areas may be monitored.

There are no special staffing provisions in the county's schools to accommodate gifted/talented/advanced/programs -- one of the main reasons there is no countywide daily program for gifted/talented students. An effort has been made by the school system to obtain the funding needed for 15 additional teaching positions. That funding request was denied for the 1980-81 school year by the county council.

Presently, the gifted/talented/advanced programs which are offered at individual schools are staffed by teachers taken from the school's regular teacher allotment -- producing higher class sizes in other courses. In some schools, the effect has been judged sufficiently negative as to disallow gifted/talented/advanced offerings. Regular classroom teachers are attempting to meet the day-to-day needs of gifted/talented/advanced

students without any provision made for the additional time it takes to develop and implement effective classroom strategies. Teachers' time limitations and the lack of specific staffing for gifted/talented/advanced programs have prevented the implementation of many needed programs.

During the 1979-80 school year six resource teachers for gifted/talented/advanced programs operated out of the school system's central office under the direction of the director of curriculum. Beginning in July 1980 the resource teachers will be operating under the direction of a coordinator of gifted/talented/advanced programs. These teachers develop and coordinate countywide enrichment programs listed earlier, conduct demonstration lessons and workshops, and help individual schools, at the request of the principal, in identifying gifted/talented students and developing school-based programs for them.

The responsibility for the development of programs does not rest with the Office of Gifted/Talented/Advanced Programs alone, but is shared with program coordinators in each subject area. Working in concert with the Office of Gifted/Talented/Advanced Programs, each program coordinator identifies the curriculum and helps to identify teachers and staff development needs for the Gifted/Talented/Advanced Program in his or her subject area.

Staff development for gifted/talented programs is conducted by the resource teachers through school visitations and through two three-credit workshops -- an introductory workshop and an advanced workshop -- approved by the Maryland State Department of Education. Since its inception in 1974, the introductory workshop has been attended by 288 teachers. The advanced workshop was initiated in 1977 and has been attended by 37 teachers. Fewer than 8% of the county's teaching staff, then, had received training through these workshops as of February, 1980. The percentage of teachers with at least some training in the gifted/talented area is somewhat larger, however, as a result of the aforementioned school visitations made by the resource team from the central office.

There are no county sponsored staff development activities currently offered for advanced programs. The College Board each year conducts a one-day regional workshop for instructional personnel for each program area for which advanced placement exams are available. These sessions are held on Saturdays and provide information on how to begin an advanced placement program, what resources are available, how the AP exams are graded, and the administrative details surrounding such a program.

In the fall of 1979, a survey of secondary principals, program coordinators and directors was conducted by the department of pupil and program evaluation of the county school system to help ascertain the present status of gifted/talented/advanced programs here. Respondents generally felt that the program is in need of improvement. Opinions were about equally divided as to the type of program needed (accelerated, enriched, or some combination of the two) and how best to deliver the instructional program (cluster schools, after school programs, or pull students out of their regular classrooms during the school day). Respondents did agree, however, that offerings should be available for all instructional areas.

MAJOR RESEARCH FINDINGS

Major research findings appropriate to gifted/talented/advanced programs are not unique to them. Findings concerning educational needs of the gifted and ways of meeting

those needs are frequently every bit as applicable to all students. With this in mind, the following findings are categorically reported:

General Findings

* *In order to adequately meet the needs of gifted and talented students, early identification is imperative. As defined by the United States Office of Education, gifted and talented children, by virtue of outstanding abilities, are capable of high performance. Included are those with demonstrated achievement or potential in any of the following areas, singly or in combination: general intellectual ability, specific academic aptitude, creative or productive thinking, leadership, or visual and performing arts.*

* *The most commonly used method of identification for gifted students is psychometric instruments. However, educators have been concerned that the disadvantaged gifted may be overlooked if psychometric instruments are the sole mode of identification. Other means of identification include: teachers, parents, peers, experts in special areas, case studies, and tests of creativity.*

* *General characteristics of the gifted and talented have been identified by researchers and teachers in the field. They should be used as signals which indicate that a child might warrant closer observation and exceptional educational provisions. They do not define a gifted child but do constitute observable behaviors. Characteristics most commonly found include the following:*

Gifted/talented children

- *often read widely, quickly, and intensely and have large vocabularies.*
- *commonly learn basic skills better, more quickly, and with less practice.*
- *are better able to construct and handle abstractions than their age mates.*
- *are frequently able to pick up and interpret nonverbal cues and can draw inferences which other children have to have spelled out for them.*
- *take less for granted, seeking the "hows" and "whys."*
- *display a better ability to work independently at an earlier age and for longer periods of time than other children.*
- *can sustain longer periods of concentration and attention.*
- *have interests which are often both widely eclectic and intensely focused.*

- *frequently have seemingly boundless energy, which sometimes leads to a misdiagnosis of "hyperactive."*
- *are usually able to respond and relate well to parents, teachers, and other adults. They may prefer the company of older children and adults to that of their peers.*

* *Enrichment programs for the gifted should incorporate higher level thinking skills and processes (analysis, synthesis, evaluation, divergent thinking). They should include problem solving activities, experiments, and investigations, including real-world methods of inquiry to apply knowledge to new situations. Enrichment should not be more of the same, but expand student experiences into areas not usually covered.*

* *Strategies for attempting to meet the needs of gifted and talented students include: early admission (to kindergarten, first grade, or college), acceleration (fast-paced mathematics, grade-skipping, supplementary classes offered after school and on weekends), enrichment study, itinerant teachers conducting classes at more than one school, seminars, and community sponsors or tutors who work in their specialty with gifted children on an individual basis.*

* *The entire school staff should be made aware of the needs and traits of gifted students.*

* *Teachers of gifted and talented students require special training in content and pedagogy. Criteria for the selection of teachers for gifted programs include: demonstrated mastery of the content, open mindedness and flexibility, a high degree of self-confidence, and capability of encouraging gifted students to accept themselves and to respect the talents of other students.*

* *The Advanced Placement Program of the College Board provides a means for meeting the needs of capable students which do not depend on early college admission. The basic content of the Advanced Placement Examinations given for college credit and/or advanced standing is determined by committees of college faculty and secondary school teachers who are experts in a given subject area.*

* *Studies concerned with the validity of Advanced Placement Examinations have shown that successful Advanced Placement candidates given advanced placement and/or credit have attained a level of achievement at least equal to that of comparable college students.*

* *Alternatives to the Advanced Placement Program include part-time college enrollment and school-college cooperative programs. Cooperatives are organized around the sponsoring college which awards credit for college courses offered at the high school and taught by high school teachers. Part-time enrollment requires that the student attend the college or university for classes taught by college instructors.*

English/Language Arts

* *Gifted readers have often been neglected in the education system. The gifted child who comes to school reading will be disillusioned if provisions are not made for special instruction.*

* *The teacher responsible for reading instruction of gifted students must be knowledgeable about child development, familiar with child-centered techniques and thoroughly acquainted with children's literature.*

* *A study of reading performance revealed that according to their capabilities, ordinary students performed five percent better than gifted students without special instruction.*

* *An effective language arts program for gifted students provides students with learning experiences that encourage them to use their imaginations.*

Fine Arts

* *Education in the visual and performing arts focused on creative behavior and problem solving has been found to be important for gifted young people.*

* *Programs in the arts for gifted children should provide mentors and other models of behavior for the student to emulate.*

* *The goal for a pre-school child who is talented in art should be to foster creativity and encourage art as a means of nonverbal communication of feelings and ideas.*

Foreign Languages

* *Talent for learning a foreign language cannot be traced exclusively to intelligence.*

* *Linguistically gifted students quickly grasp the principles of a new language and strive to go beyond the rote drills to create new patterns of expression.*

These students also express a need for grammatical analysis in addition to rote learning.

* *Gifted students of foreign languages more frequently read the target language for ideas rather than words, put thoughts directly into the target language instead of through English, and pick up and retain new foreign language expressions spoken by the teacher that other students do not notice.*

Mathematics

* *Creativity in mathematics can be measured by the ability to: formulate mathematical hypotheses concerning cause and effect; determine patterns; break from established mind sets to obtain solutions; consider and evaluate unusual mathematical ideas to think through their possible consequences; sense what is missing from a given mathematical situation and ask questions that will enable one to fill in the missing information; and split general mathematical problems into specific subproblems.*

* *Mathematics programs for gifted pre-school, primary, intermediate, and secondary students have been developed by various institutions across the country. Most notable among them are the Study of Mathematically Precocious Youth (SMPY) at Johns Hopkins University, the Secondary School Mathematics Curriculum Improvement Study (SSMCIS) at the Teachers College of Columbia University, and the Comprehensive School Mathematics Program (CSMP) published by CEMREL, Inc., a private, non-profit corporation funded in part by the National Institute of Education.*

* *Gifted mathematics students profit from being separated from the rest of the student body and given a special mathematics program. No detrimental effects on the remaining mathematics students have been found when gifted students are removed from regular classrooms.*

* *The best method of meeting the needs of mathematically gifted appears to be a blend of acceleration and enrichment. Enrichment should be interdisciplinary in nature and should enable students to develop real-world methods of inquiry and apply their knowledge to new situations. Acceleration should occur throughout the students' programs and not be limited to isolated time intervals.*

Media

* *The library media center and media specialist may serve gifted/talented/advanced students in the following ways: participation of media specialists in instructional development and design; the evaluation, selection and recommendation of reading and other media materials appropriate to the interests, achievement levels and learning potential of gifted/talented/advanced students; instruction in media and library skills needed to have access to the full range of information within any given area or field of knowledge; and the production of original media as a means of developing support materials for gifted curricula and as an instructional activity.*

Physical Education

* *A preschool child who performs motor skills very proficiently has an easier time learning more refined and complicated movements later in life.*

* *Characteristics which may indicate that a child has exceptional psychomotor ability include:*

  - *a strong interest in fine motor activities such as cutting, drawing, painting, and working with clay;*
  - *a wide range of movements including fast, slow, gentle, and strong;*
  - *exceptional balance; and*
  - *the use of basic motor skills and combinations of motor skills in goal-directed activities or games.*

* *Motor activities developed for the talented preschool child should emphasize exploration, discovery and joy in acquiring skills rather than programming for specific skills.*

Science

* *Gifted/Talented science students have the following characteristics:*

  - *they are curious about phenomena*
  - *they are stimulated by problem solving approaches to learning*
  - *they are good at identifying significant problems in a mass of information*
  - *they are readily able to induce, deduce and to make connections between related ideas*

* *Early childhood programs for gifted/talented science students place a greater emphasis on careful observation, asking thoughtful questions, hypothesizing solutions to problems, gathering information, recording findings, applying information, and communicating information to others.*

* *Gifted/Talented science programs emphasize laboratory work, experiments, and research. This emphasis engages the student to a greater extent in higher level thinking processes and more in-depth work on scientific principles. However, this approach does limit acceleration somewhat through basic content.*

Social Studies

* *Many gifted students find the social studies curriculum unchallenging due in part to instruction which seldom gets beyond the level of accumulation and regurgitation of information. An effective social studies program for gifted students must encourage students to explore, to express their ideas, and to experiment or investigate. Opportunities to develop skills for cooperative group work through shared research projects, discussions and debates, and communication of information through the creative arts are needed.*

Vocational Education

* *Vocational programs for the gifted should utilize the gifted student's creative/productive ability, leadership ability, management skill and psychomotor ability. They must allow individualization (a program unique to the student's needs, abilities, and aspirations), time (long uninterrupted periods of time in the laboratories, shops or resource centers for thinking, planning, research and testing) and freedom (absence of forces which restrict the fulfilling of the creative process).*

RECOMMENDATION

If gifted/talented/advanced students are to realize their full potentials, extraordinary educational opportunities must be provided. Research findings related to gifted/talented education verify that programs which address the needs of the gifted on a daily basis are required. However, only adjunct programs meeting over relatively short time intervals are available to gifted/talented students throughout the county. Consequently, gifted students find themselves in the regular classroom most of the time working with materials which often fail to challenge them. Only through special efforts made by the classroom teachers, without any type of compensation, are appropriate activities provided to gifted/talented students on a daily basis. But these provisions, developed and implemented by school-based staff, are not consistent from school to school since they are not centrally coordinated. Therefore, the Committee recommends:

* **DEVELOPMENT AND IMPLEMENTATION OF PROGRAMS FOR GIFTED/TALENTED AND ADVANCED STUDENTS IN ALL INSTRUCTIONAL AREAS WHICH PROVIDE FOR THEIR NEEDS ON A DAILY BASIS.**

In implementing the above recommendation, the Committee proposes:

1. Establishing identification procedures for gifted and talented students, in addition to psychometric measures, which do not overlook the disadvantaged, the culturally different, or the high potential underachievers.

2. Including student interest among the criteria for placement in gifted/talented and advanced programs.

3. Identifying curriculum alternatives in each program area for gifted/talented students which incorporate appropriate combinations of acceleration and enrichment and make allowances for late entry and/or early departure needed to accommodate varying degrees of student interest, maturity, and ability. Enrichment should be interdisciplinary in nature and include problem solving, experimentation, and investigations which incorporate real-world methods of inquiry. Additionally, gifted/talented programs should stress higher level thinking skills and processes (divergent and critical thinking, analysis, synthesis, evaluation) and reduce substantially the amount of time given to drill and practice. Specific recommendations for program areas follow:

English/Language Arts

- Development and implementation of an English program stressing creative and critical reading and writing.

Fine Arts

- More flexibility in school scheduling and staffing patterns, such as sharing teachers between schools and extended instructional periods, to accommodate smaller class size, advanced classes, and the activities needed to nurture the creative talents of gifted students of the arts.

- Provide the means for gifted students of the arts to interact with others in their field of interest, such as professional artists, musicians and actors, and to have the opportunity to display their own talents.

- Development and implementation of a mentorship program for gifted students of the arts.

Foreign Languages

- Expansion of the foreign language program to accommodate the verbally gifted at both elementary and secondary grade levels. Gifted students should be encouraged to study more than one foreign language.

- Provision made for students to acquire knowledge in other instructional areas through a foreign language. This would include mentorship programs.

Mathematics

- Implementation of mathematics programs at all grade levels for the gifted which emphasize problem solving, experimentation and experiences with a wide variety of mathematical applications. The programs should take full advantage of the power of calculators and computers.

- Implementation of a secondary mathematics program which considers the following strategy: combining the content of Algebra I, fused geometry, and Algebra II into a two year unified approach bringing in geometry topics where appropriate, de-emphasizing the theoretical Euclidean approach, and emphasizing, instead, affine geometry; incorporating high level abstract content normally omitted from the academic program; including probability and statistics and applying computer science whenever possible.

- Expanding the high school mathematics curriculum beyond the AB and BC Calculus courses to allow students to take, for example, a third semester of calculus, a semester of differential equations and a year of linear algebra.

Media

- Utilization of library media services in the development and implementation of gifted/talented programs.

- Identification of library media skills needed by gifted/talented students and development of a program that will ensure that the appropriate instruction will be provided.

Physical Education

- o Refinement of the K-12 physical education curriculum to include more provisions for students identified as having psychomotor talent.

Science

- o Development and implementation of special science programs designed for gifted students which emphasize higher level thinking processes through inquiry, experimentation, and research.

Social Studies

- o Modification of the social studies program to provide student opportunities for exploration, experimentation and inquiry in both group and individual situations. Processes used by social scientists should be stressed as opposed to student accumulation of information.

Vocational Education

- o Modification of the vocational program to provide gifted/talented/advanced students with additional opportunities to apply their creative/productive ability, leadership ability, management skill, and psychomotor ability in a variety of creative endeavors.

4. Using activities outside the regular school day as an additional means to provide appropriate experiences for gifted and talented students.

5. Establishing procedures for effective and efficient delivery of instruction to gifted and talented students. The following should be considered as means to accomplish this.

- o General resource teachers to facilitate identification of gifted students, staff development in gifted education, and coordination of gifted/talented/advanced programming.

- o Resource teachers in specific instructional areas to facilitate the development and dissemination of appropriate activities and materials.

- o Itinerant teachers.

- o Staffing to accommodate small class size.

- o School clusters in which one of the schools is identified to provide instruction for the gifted.

- o Magnet schools.

- o Expansion of efforts with local colleges and universities to provide gifted students improved opportunities for part-time enrollment and early admission.

- o School-college cooperatives which enable students to earn college credit in high school.

- o Expansion of the advanced placement program into as many instructional areas as possible.

6. Identifying criteria for selecting teachers of gifted/talented/advanced programs at the secondary level.

7. Developing an inservice program which

- o makes all school staff (teachers, counselors, and administrators) aware of the traits and needs of gifted/talented students.

- o includes training specific to the instructional areas in which gifted/talented programs exist or are being developed.

- o provides training to all elementary school teachers in general classroom management skills needed to implement programs for gifted/talented students within the regular classroom.

8. Developing programs for parents to make them aware of the traits of gifted children, activities they can do at home to nurture their own children's gifts, and rationale for providing gifted/talented/advanced programs in the schools.

9. Identifying appropriate instruments to evaluate the effectiveness of gifted/talented/advanced programs in terms of their objectives.

10. Implementing Advanced Placement programs in all senior high schools for all instructional areas for which content and exams have been developed by the College Board. Program implementation should include the following components:

- o establishment of the AP exams as a requirement for advanced placement courses.

- o incorporation of guidance services needed to make parents and students aware of advanced placement opportunities and to encourage enrollment in advanced placement courses.

- o full implementation of the policies established by the College Board for teaching advanced placement courses.

- o analysis and interpretation of AP exam results should be obtained from the College Board to monitor student progress and to improve program delivery in each school.

11. Encouraging students to use the College Level Examination Program (CLEP) as an additional means to pursue college credit and/or advanced placement.

The foregoing recommendation will require:

a. establishment of a close working relationship among the coordinator of gifted/talented/advanced programs, other program coordinators, and school based staff to develop and implement needed programs.

b. provision of more flexibility in the length of instructional periods to accommodate special requirements of gifted/talented/advanced programs.

c. provision for the staffing patterns needed to implement gifted/talented/advanced programs (additional staffing to accommodate small class size and special requirements of advanced programs, resource teachers, itinerant teachers).

d. expansion of the use of Maryland Hall, museums, performances, and other means by which gifted students of the arts may interact with others in their field of interest and display their own talents.

e. identification of professionals to serve as mentors.

f. expansion of the hours of operation of school industrial arts shops and/or vocational education centers to accommodate the gifted.

g. designation of a school-based facilitator for gifted/talented/advanced programs in each school.

h. creation of an advisory committee consisting of students, parents, teachers, counselors, and administrators for each school feeder system to review identification procedures and programs.

i. implementation of a computerized record keeping system to track the progress of gifted/talented/advanced students.

j. utilization of Advanced Placement training programs made available by the College Board and offered each year.

k. provision for students to take advanced placement exams free of charge.

l. implementation of efficient administrative procedures related to advanced placement programs to avoid scheduling conflicts and to make judicious use of available personnel in program implementation and evaluation.

OUTCOMES

With adoption of this recommendation, the following outcomes are projected:

- Gifted/talented/advanced students will increase their use of higher level thinking skills and processes (analysis, synthesis, evaluation, divergent and creative thinking).

- Students will have greater opportunities for acquiring college credits and/or advanced standing.

- Students will demonstrate improved learning attitudes.

- Students will be enrolled in courses commensurate with their abilities.

- Students will be provided with increased opportunities to realize their full potentials.

PRESENT STATUS

The guidance program for the Anne Arundel County Public Schools has been developed over a period of years. It has a philosophy, a set of goals, related student objectives, and a school monitoring system.

The goals and objectives define the program as an integral part of the educational process designed to focus that process on the individual. It says the school counselor serves three main capacities: as a counselor, primarily of students; as consultant to parents, teachers and administrators; and as coordinator of the services of the guidance program.

The philosophy, goals, and objectives also state that the program is designed to meet the needs of students by enabling them to: succeed in, and enjoy, the school experience; develop realistic and positive self concepts; develop and utilize behaviors that make possible effective interpersonal relationships; understand and apply the decision-making process to life choices; progress toward productive and rewarding careers; and understand and deal with change.

The program's philosophy was developed by a committee of counselors and administrators in 1974. Goals and objectives were derived from an assessment of student needs. The philosophy, goals and objectives were formally adopted by the Board of Education in 1975.

To insure implementation in accordance with the philosophy, goals, and objectives of the guidance program, a form was designed to be used by each school to assess the process being used by the counselors. These forms are to be filled out monthly and signed by the guidance department chairperson. They are validated by the school principal and forwarded to the county guidance program coordinator in the Central Office.

The monitoring forms do not measure student outcomes, however. They validate counselor activities and processes only. Typically, the form requires the counselor to report what he or she has done, rather than what the student has done, or is now able to do, as a result of guidance activities. The monitoring system produces, at best, unvalidated evidence of actual student outcomes. It is assumed that because certain functions have been performed on a regular basis by the counselor, certain outcomes have been produced.

With the move toward competency-based student outcomes, rather than process-based counselor outcomes, plans are underway to alter this procedure.

The delineation of counselor functions, duties and responsibilities change from school to school. There is, therefore, an absence of universally uniform implementation of guidance goals and objectives. Data gathered through observation and interviews suggest this is the result of the administrative decision-making system now in operation within our schools. Put more directly, it is the principal who decides from school to school what it is the counselor shall do.

For example, in one school a counselor may be directed to personally complete all data processing papers to be sent to the computer, while in another school the counselor undertakes little, if any, of this work. In some schools counselors have indicated that they spend nearly 25% of their time in special education-related tasks, while in other schools with similar student populations and needs counselors are not involved in these tasks at all.

Some counselors are directed to collate materials to be attached to report cards, contact parents of students to be detained after school, or enter test scores on student records. In other schools, counselors perform none of these clerical type tasks.

In some schools counselors are encouraged by principals to plan and implement new processes and programs, while in other schools counselors are discouraged from meeting formally for these purposes. Countywide, the average time spent by counselors in non-counseling duties is 51% according to a survey conducted in the spring of 1980. The remaining portion of their time is spent in performing various counselor functions, including scheduling. This wide variance of counselor duties, observed when comparing schools, is the product of the wide difference in management styles adopted by building administrators.

The guidance services' approach has been used as the chief means by which to define the role of and evaluate the effectiveness of counselors. The services to be performed are found in role and function definitions -- with the roles many, and the functions' list long. However, neither role nor function clearly states what results a counselor has produced, is producing, or can produce in terms of student outcomes if given the opportunity.

The evidence of counselor effectiveness, then, is usually how many students participated in what process, and -- sometimes -- how the student felt about the process. This is in lieu of providing any evidence of whether students acquired any competencies as a result of that process. Counselors working within these role-and-function constrictions are generally considered successful when it is realized that every student is enrolled, all telephone calls are answered, all school curriculum, program and schedule conflicts are resolved, and all teachers' referrals are addressed.

Presently there are 101 counselors employed by the school system, all on a twelve-month basis. The vast majority of them -- 98 -- are assigned to secondary schools on a per pupil basis. There is one special education counselor, with the remaining two assigned to the vocational-technical centers. Four counselors will be hired during the 1980-81 school year to reinstitute the elementary guidance program that was phased out a number of years ago. There are no secondary schools without at least two counselors. During recent years the ratio of students to counselors at the secondary level has ranged from 250 to 1 to as high as 600 to 1, with a present average of 370 to 1.

The average age of the county's counselors is 49 years, with an average of 8.9 years in their current position. Of the 101 counselors profiled for this present status analysis, 13 have the Master's equivalent, 59 have Master's degrees, and 29 have at least 30 credits beyond the Master's. Data are not available regarding the quality or the type of training they have had. At the present time, a needs assessment is being conducted to determine staff development needs. It is anticipated that the results will be used to plan comprehensive staff development activities for counselors.

MAJOR RESEARCH FINDINGS

A review of the research and literature produced the following findings:

* *The counselor in a role and function-oriented system has been highly successful in putting students through*

processes, such as class scheduling, parent conferences, etc. It is not clear, however, what this has produced in terms of behavioral outcomes.

* *The principal or school building administrator in charge of guidance programs is the major key to a successful guidance program.*

* *Current criteria for counselor selection are adequate for role and function or process-oriented positions but inadequate for student competency-based guidance programs.*

* *Pre-service counselor education programs appear to be in discord with what is needed by the hiring school system.*

* *Counselor contributions should include more involvement in program planning and management, teacher inservice activities, and curriculum implementation.*

* *Formal guidance programs, to be truly effective, must make the shift from process to product accountability. The programs should be founded in student competencies for all grades, K-12, that address the expected developmental stages of youth and that correlate with accepted theories of learning.*

* *Formal guidance programs should be systematic, curriculum based and designed to insure that all students, K-12, will acquire competencies in: choosing from educational, occupational, personal/social, and leisure alternatives; decision-making; planning, implementing, and evaluating; relating to self and others; planning for and dealing with change; and contributing in positive ways to society.*

* *In order to make a shift from process to product, current counselors and administrators will have to identify and acquire competencies in instructional program development, management, implementation, and evaluation.*

* *To be maximally effective, the structure of the management of guidance programs should include differential staffing, e.g., some counselors working only with groups, some only with individuals, some only with staff, some only with parents, some only with curriculum development and monitoring, and some only with the community. The department chairperson should have the equivalent of an earned doctorate and report to central office personnel for direction and results, but to the building administrator for daily management.*

* *Effective guidance departments must have numerous support personnel and advanced support technology to handle all clerical records pertaining to monitoring students' progress. Computer usage for all clerical work should be implemented, freeing counselors to use their time in guidance program activities providing more direct student contact.*

* *Although the counselor should assist the student and parents in planning an academic program and monitoring progress, the primary responsibility lies with the student and his/her parents.*

* *To be effective, the contributions of counselors should be different by building levels or students' ages. For example, the counselor at the elementary school level should have competencies in learning-teaching styles, staff development, parent education, and character/developmental/psychological education. The middle/junior high school counselor should contribute to program development, decision-making, study habits, and parent education. The senior high school counselor should be concerned with planning, intra- and inter-personal relationships, career planning, and student competencies. All should have the common competencies of individual and group counseling.*

RECOMMENDATION

With counselors accountable for services rather than student outcomes, and with the services for which they are responsible shifting from school to school, the counseling program in Anne Arundel County lacks common direction to benefit all students.

Also, there is currently minimal monitoring of student behaviors, and inadequate involvement of counselors with teachers. With counselors spending, in some cases, half of their time in non-counseling functions, there is also a considerably less than desirable amount of time spent with students in developing desired attitudes, knowledge and skills.

Initial steps were taken at five schools during the second semester of the 1979-80 school year to move in the direction of a student competency-based program. Plans are projected to expand these efforts into a full scale pilot program in 1980-81. It is clear at present, however, that most counselors currently employed seem to be reactive to other people's priorities, rather than proactive in managing their own time to plan programs for students and produce more definitive behavioral outcomes. Therefore, the Committee recommends:

* ESTABLISHMENT OF A K-12 COUNSELING PROGRAM BASED UPON STUDENT OUTCOMES.

In implementing the above recommendation, the Committee proposes:

1. Development of a guidance model, to be pilot tested, revised, and adopted to inductively establish a competency-based guidance program at each school employing one or more counselors.

2. Formation of a County Guidance Advisory Committee to help establish student competencies and annually recommend priorities based on needs assessments.

3. Design of a countywide program evaluation system which focuses on student outcomes rather than counselor processes.

4. Design of a computerized, countywide system for record keeping and monitoring of student competencies, referrals, enrollment data, school statistical trends and other information.

5. Development of a comprehensive staff development program to insure that counselors demonstrate the skills necessary to implement a student competency based guidance program.

6. Establishment of counselor selection procedures which require demonstration of skills necessary to implement a student competency-based guidance program.

7. Establishment of counselor staffing patterns based on student needs.

8. Expansion of the elementary guidance program.

The foregoing recommendation will require:

a. development of common statements, glossary, goals and competencies identified and collated to form a countywide program.

b. designing and implementing a countywide system for school and student monitoring, including the developing of instruments to assess students, and observation guides to collect data during site monitoring visits.

c. development of an assessment strategy that provides data on countywide, school and individual counselor needs.

d. planning and implementing a county staff development project designed to address K-12 county needs, school needs and the unique needs of each counselor.

e. planning and implementing a joint inservice effort for principals and guidance department chairpersons on competency-based program processes.

f. development of a system in which counselors wanting transfers will be matched with the needs of specific schools with vacancies in the guidance department.

g. increasing the number of counselors.

OUTCOMES

With adoption of this recommendation, the following outcomes are projected:

- Students will exhibit a greater ability in learning, working, relating to others, and in assuming responsibility for themselves.

- Students will develop attitudes leading to positive behaviors.

- Students will make better decisions about future educational and career choices.

PROGRAM AREA: Health Education

PRESENT STATUS

Health education is a planned discipline derived from the biological, behavioral, sociological and health sciences designed to improve health knowledge, attitudes and behavior. At present there exists no specific health curricula for the elementary and middle levels; topics of special interest and content appropriateness may be taught in conjunction with social studies, physical education, science and language arts curricula. At the senior high level four electives -- Health Education, Sports Medicine, Family Life and Human Development and Drug Education -- are offered. These courses are generally taught by physical education teachers. Additionally, an introduction to cardiopulmonary resuscitation (CPR) procedures is included in the one-half credit physical education requirement for students in grade nine.

Currently no teachers are employed by the county specifically for the purpose of teaching health education on a full time basis. An analysis of staff qualifications indicates three teachers are fully state certified in Health Education and 29 are within nine credit hours of full certification.

Professional improvement workshops have been designed for teachers of the senior high elective courses, as well as those teaching specific health units at the elementary school level. In addition, school administrators, clerical personnel, bus drivers, food service staff members and other school support personnel have received training through the Standard First Aid and CPR course.

The Alternative Drug Program is a course of instruction and counseling, required as a condition of reinstatement for students who have been suspended because of drug (including alcohol) offenses. Although parent (or guardian) participation in the instructional component is optional, the student's parent (or guardian) is required to participate in the counseling component. In addition, the program may be taken by students and/or their parents on a volunteer basis. This program was instituted in January, 1980; and as of this writing, its effectiveness has not been evaluated.

There presently exists an adult education course to promote parental awareness in drug abuse. This course, however, has never been taught due to insufficient enrollment. There are no other countywide, school system sponsored adult education courses designed to generate similar parent interest in the health areas of human sexuality, aging, self-care, smoking, consumerism or environmental health issues, nor do there now exist coordinated community projects designed to encourage students to become involved with health-related agencies.

MAJOR RESEARCH FINDINGS

A review of the research and literature produced the following findings:

* *Health education offered in the schools is the most efficient way to educate and encourage children to adopt preventive, healthy lifestyle behaviors.*

* *Health education programs are most successful when considered to be a separate discipline, guided by an independent curriculum.*

* *When supervision of health programs is combined with responsibilities for other disciplines, health programs are found to be not fully implemented, nor given the proportionate attention they require.*

* *Health education is most effective when the program is built around a process of critical thinking. Such a comprehensive, professionally directed health education curriculum provides a sound basis for student decision making about personal, family and community health practices.*

* *Health habits formed early in life tend to endure.*

* *Health education has been shown to be effective in reducing health care costs because of its primary emphasis on prevention rather than treatment.*

RECOMMENDATIONS

Each day individuals must make decisions concerning practices that affect healthful living. To enable students to make sound decisions related to personal, family and community health, the school system should provide a planned and systematic health education curriculum. Although health education is currently expected to be infused with other disciplines in the public schools, it appears that this is not done on a consistent basis. Research indicates that a successful health education program is one in which the content is taught as a separate subject, and not integrated with other subject matter. Therefore, the Committee recommends:

* DEVELOPMENT, ADOPTION AND IMPLEMENTATION OF A COMPREHENSIVE HEALTH EDUCATION PROGRAM AS A SEPARATE SUBJECT IN THE CURRICULUM.

In implementing the above recommendation, the Committee proposes:

1. Establishment of a separate office of health education.

2. Develop, coordinate and implement the curriculum, including present programs in family life and human development, drug education, and nutrition education.

3. Allotment of a specific time for health education instruction in the elementary and middle schools.

4. Design of program to promote parental awareness in areas such as drug abuse, human sexuality, aging, self-care, smoking, consumerism, and environmental health issues.

5. Expansion of the elective health education program at the senior high level.

The foregoing recommendation will require:

a. establishment of the position of coordinator of health education to place on line a person equal to other school system program coordinators.

b. development and implementation of staff development activities designed to meet K-12 county health education needs.

c. identification, reassignment, and training of staff for program implementation.

d. development of evaluative measures to assess program goals and objectives.

e. establishment and promotion of additional adult education courses.

f. creation of strategies specifically designed to increase family involvement.

OUTCOMES

With adoption of this recommendation, the following outcomes are projected:

-- Students and adults will develop sufficient knowledge about health to make informed decisions and to adopt preventive, healthy lifestyles.

PRESENT STATUS

Industrial Arts is a program of instruction which acquaints the student with technology (its evolution, utilization and significance), industry (its organization, occupations, processes and products), and with the relationship of technology and industry to society (the benefits and problems resulting from the technological and industrial nature of the world in which we live). The distinctive character of the industrial arts program is the extensive use of activity-based learning. The industrial arts lab provides opportunities for students to experience concrete application and development of cognitive learning coupled with extensive psychomotor activities.

Industrial Arts is not part of vocational education. It is a school-based program, designed to meet the avocational interests of the students. On the other hand, vocational education is both home-school and field-based and traditionally has stressed providing students with entry-level occupational skills.

Industrial Arts is formally introduced into the curriculum at the middle/junior high school level, where all students are required to take 12 weeks of exploratory industrial arts in grades 6, 7, and 8 on a daily basis. Students attending K-6 elementary schools miss one year of the industrial arts curriculum.

A middle school curriculum guide was completed in 1979 and is currently being implemented. Units of study include industry and production (plastics, woods and metal) and communications (graphic arts and photography). Two junior high schools and three middle schools lack the dark rooms and equipment to implement the communications component. At these schools additional time is devoted to the industry and production portions of the curriculum.

Industrial Arts at the senior high school level is offered as an elective program. Course offerings cover the areas of graphic arts, photography, auto mechanics, manufacturing in wood and metal, drafting, and electricity and electronics. There appears to be some duplication of content with courses offered at the vocational-technical centers. Curriculum guides for woodworking, power mechanics and automotive courses are scheduled to be completed for implementation in the 1980-81 school year. Guides for the remaining courses need to be developed. A one-credit summer workshop for staff members is being planned to introduce ways of integrating alternative energy activities with courses in electricity, electronics, architectural drawing and power mechanics.

The following table shows the number of senior high school students (grades 9-12) who were enrolled in elective industrial arts courses for the fall semester of 1979.

High School Students (Grades 9-12)
Enrolled in Industrial Arts Courses
September, 1979

	No. Enrolled	Total No. of Students Grades 9-12
Male	4,553	12,107
Female	342	12,122
Total	4,895	24,229

Until 1979-80, the only program providing students in the school system with an opportunity for vocational exploration has been the Fundamentals Program in the Trades and Industry curriculum. This program is offered only at the two vocational-technical centers, requiring the busing of students from their home schools. These students lose instructional time at their home schools; in some cases up to one and one-half periods daily. Those students who take the Fundamentals Program in the late afternoon, lose the opportunity to engage in extended day activities such as clubs and sports programs.

Efforts have been made in recent years to explore ways in which vocational exploration programs might be offered in the home school. During the 1979-80 school year, the scope of the industrial arts curriculum at Annapolis Junior High School was expanded to include such an exploratory program for ninth graders. A course titled "The World of Construction" was offered. It touched upon the areas of carpentry, plumbing, electricity, sheet metal and masonry -- many of the areas covered by the Fundamentals Program at the vocational-technical centers. "The World of Construction" was offered as a semester course for two periods daily. Forty-three students were enrolled. The course is being offered in the summer school program in 1980, and again during the regular school year in 1980-81 at Annapolis Junior High School.

Ninety-seven teachers were assigned to industrial arts for school year 1979-80. Of these, ninety-five were certified in industrial arts, while two were certified in vocational education. Staff development is accomplished through workshops and one countywide inservice day. Individual cases requiring the upgrading of teacher expertise are handled through specific plans of action. Since 1975, seven workshops have been offered for industrial arts teachers. Of these seven offered sessions, five were actually held, involving a cumulative total of 56 people. Two offerings were cancelled due to lack of enrollment.

MAJOR RESEARCH FINDINGS

A review of the research and literature produced the following findings:

* *The industrial arts curriculum should assist students in developing adequate technological literacy and the ability to critically evaluate technological developments in terms of their cost and benefit to society.*

* *A curriculum that is more relevant and current will attract students with a wide variety of interests and abilities. In addition to craft skills, industrial arts should provide all students with skills which will be useful in daily living.*

* *A major challenge to industrial arts is to prepare students to intelligently select career choices and to develop attitudes crucial in ensuring our global survival.*

* *Exploratory courses should offer first hand experiences in a variety of simulated occupational situa-*

tions in order to develop interests and capacities of students and to contribute to their guidance in occupational selection or plans for further education.

* *The constant alterations to existing jobs necessitates preparing students with occupational knowledge about clusters of jobs.*

RECOMMENDATION

Traditionally the aim of industrial arts has been to acquaint students with industry and technology; not to provide job entry-level skills. However, recent literature indicates a need for the industrial arts curriculum to prepare students to intelligently select career choices as well as to offer students the traditional craft skills. Therefore, the Committee recommends:

* MODIFICATION AND/OR REVISION OF THE PRESENT INDUSTRIAL ARTS CURRICULUM TO PROVIDE INTRODUCTORY EXPLORATORY EXPERIENCES, CAREER EXPLORATION OPPORTUNITIES, AND A BASIC FOUNDATION FOR CAREER PREPARATION FOR TECHNICAL PROGRAMS AND/OR AVOCATIONAL INTERESTS.

In implementing the above recommendation, the Committee proposes:

1. Full implementation of the introductory exploratory industrial arts program in the middle schools as designed, with updated revisions to reflect the latest technologies and industries.

2. Implementation, in all ninth grades of an elective school-based program under the industrial arts curriculum.

3. Offering courses at the senior high school level which prepare students for advanced occupational or technical programs, and avocational interest.

4. Modifying the curriculum to eliminate duplication with vocational education and other curriculum areas.

The foregoing recommendation will require:

a. Updating and properly equipping all facilities in order to implement the communications component of the middle school curriculum.

b. Upgrading facilities, purchasing necessary equipment and materials, and altering course content and presentation sequence to accommodate vocational exploratory experiences at the ninth grade level in the home school.

c. Revamping the industrial arts curriculum at the high school level by:

   - Eliminating course such as Photography and Automotive II that overlap and duplicate content offered in other areas such as art and trades and industry.

   - Developing pre-technical courses in communications technology, power and transportation technology, and materials and process technology. These courses would better prepare students to move to higher levels of learning after graduation; during which job entry skills would be acquired.

   - Refining existing courses in mechanical drawing, electricity/electronics, graphic arts, metal working, woodworking, and power and auto mechanics to fulfill students avocational interests.

d. Providing staff development to update the knowledge and skills of industrial arts teachers as related to and coordinated with curricular change.

OUTCOMES

With adoption of this recommendation, the following outcomes are projected:

- All students at the middle/junior high school level will take industrial arts as required.

- Students will have an opportunity to participate in a career awareness program at their home high school to explore occupations in a variety of trade areas.

- Students will have the opportunity to participate in courses that will prepare them for advanced occupational and/or technical programs.

- Students will have the opportunity to develop skills related to a variety of avocational interests.

- Teachers will update knowledge and skills needed to implement the new career exploration and technical programs.

PROGRAM AREA: Mathematics
CONSIDERATION: CALCULATORS

PRESENT STATUS

The use of calculators in the county at present varies with their availability and with teacher preparedness to use them. For instance, newly opened secondary schools now have on hand class sets of calculators purchased with equipment monies granted under allocations in the "Equipment" category of budgets approved by the State Public School Construction Program. Schools existing prior to state funding of school construction have, at their option, purchased calculators with county funds as they have become available. As there has been no curriculum prerequisites in this regard, not all schools have made these purchases. Generally, however, calculators are more widely available and more widely used at the secondary level than at the elementary level. Prior to 1980, no in-service activities were undertaken to train teachers in instructional strategies related to the use of calculators.

Calculator use has been limited to activities which supplement existing curricula. County curricula have not been developed or modified to take advantage of the calculator's capacity for facilitating the movement of students into areas of mathematics, such as real-life applications, pattern discovery, the application of statistical procedures to decision-making, and investigations of a variety strategies for problem solving, which would otherwise be unattainable or impractical.

MAJOR RESEARCH FINDINGS

A review of the literature produced the following findings:

* *Calculator use by students does not exempt the need for acquisition of basic computational skills and should never be considered as a substitute for these learning activities.*

* *Calculator use does not harm already acquired computational skills, nor the acquisition of additional computational skills at any level, K-12*

* *Student gains in understanding mathematical concepts and developing problem solving skills can be made through the use of calculators. This is particularly true when curricula are designed for calculator use, but it is also true when calculators are used to supplement existing curricula*

* *The use of calculators produces an increase in student interest in mathematics. This increased interest does not "fade" or drop off after initial activities, but is sustained throughout all units in which calculators are utilized*

* *Low ability high school students are better able to attain a higher level of achievement through calculator use and thus move on to development of greater understandings of mathematical concepts and their applications. This, in turn, motivates interest in developing purely computational skills.*

RECOMMENDATION

Calculator use has been shown empirically to improve both student understanding of mathematical concepts and development of problem solving skills. Additionally, pattern discovery and real world applications of mathematics are facilitated through calculator use. Even though research has established that calculators have no harmful effects on computational skills, there remains a substantial amount of controversy concerning the extent of their use in mathematics instruction. The limited use and availability of calculators in the county reflects this concern. However, the vast majority of studies concerning calculators have demonstrated their beneficial effects on student achievement, particularly when curricula are specially designed to take advantage of calculator use. Therefore, the Committee recommends:

* THE USE OF CALCULATORS BE INCORPORATED AS AN INTEGRAL PART OF MATHEMATICS INSTRUCTION, K-12, AND THE APPLICATION OF THEIR USE BE ENCOURAGED IN ALL OTHER CURRICULUM AREAS WHERE APPROPRIATE.

In implementing the above recommendation, the Committee proposes:

1. Using calculators in grades K-8 as a supplementary instructional aid with emphasis placed on the understanding of mathematical concepts, applications, and problem solving; and in no later than grade nine, using calculators as a primary instructional aid for mathematics work, including tests.

2. Developing curricula specially designed for calculator use.

3. Modifying existing curricula in mathematics and identifying the use of calculators in all other curricular areas.

The foregoing recommendation will require:

a. increasing mathematics training for elementary teachers, particularly at the intermediate level.

b. supplying each school with at least one class set of calculators per mathematics instructor or elementary school grade level.

c. implementation of in-service programs to assist in the process of integrating the use of calculators into the curriculum.

OUTCOMES

With adoption of this recommendation, the following outcomes are projected:

- Students will demonstrate increased understanding of mathematical concepts
- Students will acquire improved problem solving skills
- Students will acquire skills which will provide them more opportunities in the job market.
- Students will exhibit improved attitudes toward learning mathematics.

PROGRAM AREA: Mathematics
CONSIDERATION: COMPUTERS/PROGRAMMABLE CALCULATORS

PRESENT STATUS

Computers

The majority of computer use in mathematics instruction occurs at the senior high school level in computer mathematics classes. Content outlines for these classes have been developed which stress computer applications to problem solving with the use of a higher level computer language such as BASIC or FORTRAN. In addition, some high school mathematics departments have begun incorporating computer activities throughout the mathematics program. However, school-based uses of the computer outside of computer mathematics courses have been extremely limited due to the lack of sufficient equipment. At the middle/junior high level, computer use has been limited generally to programs for gifted students, although there has been some broadening of the audience this year. In the elementary schools, there is no use of computers in mathematics instruction at the present time.

Four terminals hooked into the "Prime" time sharing computer system are located in the business department at each senior high school in the county. One period a day is allotted each for mathematics, science, and administration; the remaining periods are allotted to business education.

In addition to the "Prime" computer terminals, two senior high schools are equipped with microcomputers. A microcomputer is a self contained unit with memory and program capacity somewhat smaller than the "Prime" computer system housed at the North Arundel Vocational Technical Center. The two schools so equipped are: Annapolis Senior High, which has six TRS-80, Level-2 micro units, and Northeast Senior High, which has two of these units.

At the middle/junior high level, no schools have "Prime" computer terminals or microcomputers with the exception of Severn River Junior High. At that school a microcomputer (Apple II) is located in the mathematics department. This unit is considerably more sophisticated than the TRS-80 units.

In the county's elementary schools there are no computers of any kind.

Recently, the Board of Education approved the use of Title IV-B funds to purchase additional microcomputers for the school system. These funds were used to place nine such units in each senior high school and to place, on a trial basis, one such unit in a middle or junior high school and one in an elementary school.

Fifty percent of the mathematics teachers at the senior high school level have had some computer training, ranging from three credits to 15 credits. Less than 15% of teachers at the middle/junior high level have had computer training. No survey has been taken to determine the number of elementary school teachers with such training.

In-service programs are now in place which have been designed to familiarize teachers with the use of the "Prime" computer system and to teach instructional strategies as they relate to computer use in the classroom. In-service training on the microcomputers purchased with Title IV-B funds began in the summer of 1980.

Programmable Calculators

A programmable calculator is capable of performing many computer functions. Programmable calculators use a different programming logic and are limited only by their smaller memory and lack of suitable hard copy or graphics. The school system has purchased large desk-top programmable calculators and students often bring their own handheld programmables to class, thus expanding opportunities for class use.

High schools constructed after 1971 are equipped with at least two programmable calculators each, purchased with monies granted under allocations approved by the State Public School Construction Program. In addition, other schools have purchased these machines with regular instructional equipment funds. Therefore, most high schools now have at least one programmable calculator assigned to the mathematics department. There are no programmable calculators in either middle/junior high schools or in elementary schools.

MAJOR RESEARCH FINDINGS

A review of the literature produced the following findings:

* *Computer use as a problem-solving aid to supplement and enhance existing curriculum is easiest to implement and occurs more frequently than any other computer use. A wide variety of software already exists in this area. Computer use has been shown to eliminate barriers to the exploration, discovery, and application of mathematical concepts.*

* *Computer programming has been successfully taught at all grade levels. Mathematical concepts are reinforced, when applied with the aid of a computer, as students develop their own programs.*

* *Each student should have some "hands-on" experience with computers and learn what a computer can and cannot do.*

* *Findings relating to computers apply to the use of programmable calculators, which may in some cases be more appropriate and practical than the use of computers. Overall, however, microcomputers are more cost-effective as instructional aids than programmable calculators due to their superior capacity, print-out, and graphics.*

* *Computers have been shown to improve student attitudes toward the learning of mathematics.*

* *Use of the computer for direct instruction of students (computer-assisted instruction) has had generally positive results. As microprocessing increases computer availability, the appropriate use of one or more modes of computer-assisted instruction could provide viable alternatives for the classroom teacher seeking to meet individual student needs.*

* *Computer-managed instruction has been found to facilitate record-keeping in individualized instructional programs; but has been found to have little effect on student achievement.*

RECOMMENDATION

Computers and programmable calculators are valuable tools in mathematics instruction. They provide a means to introduce and reinforce mathematical concepts. In addition, they enable students to explore a wider variety of problem solving strategies, inductive as well as deductive. However, their use in the county mathematics program is restricted mainly to courses in computer mathematics due to the limited number of computer terminals and programmable calculators in the schools. Current plans to place nine microcomputers in each senior high will improve the situation; but additional computers, programmable calculators, and activities to make effective use of computers and programmable calculators throughout the mathematics program are still needed. Therefore, the Committee recommends:

* THE USE OF COMPUTERS AND PROGRAMMABLE CALCULATORS AS AN INTEGRAL PART OF MATHEMATICS INSTRUCTION, K-12, AND THE APPLICATION OF THEIR USE BE ENCOURAGED IN ALL OTHER CURRICULUM AREAS WHERE APPROPRIATE.

In implementing the above recommendation, the Committee proposes:

1. Incorporating computer/programmable calculator oriented activities throughout the mathematics program to explore, discover, reinforce, and apply mathematical concepts; including the establishment of computer literacy objectives in the curriculum beginning no later than the seventh grade.

2. Teaching a higher level programming language, such as BASIC, within the present Algebra I course; and expanding and using student programming skills throughout subsequent mathematics courses.

3. Replacement of computer mathematics courses with computer science courses which include instruction in at least two programming languages; but retention of computer mathematics course objectives in the mathematics curriculum.

4. Implementing in-service programs which emphasize instruction on how to develop and implement activities in the classroom which incorporate the use of computers and programmable calculators.

The foregoing recommendation will require:

a. establishment of criteria for all mathematics teachers to demonstrate competency in computer science, with differing criteria at the elementary and secondary level.

b. specific inservice activities outlining appropriate use of programmable calculators versus computers; that is, making use of programmable calculators when portability and small programs are needed and to present an alternate programming logic.

c. placement of at least 15 microcomputers in each senior high school, at least five in each middle/junior high, and at least one in each elementary school, followed by a class set of hand-held programmable calculators for each senior high.

d. appointment of a computer specialist to oversee and facilitate the effective and efficient use of computers throughout the county and to oversee the development and location of appropriate computer software and hardware.

e. allotment of staff time to deve'op computer curriculum and evaluate computer hardware and software for instructional purposes.

OUTCOMES

With adoption of this recommendation, the following outcomes are projected:

- Students will exhibit an increased understanding of mathematical concepts.

- Students will acquire improved problem solving skills.

- Students will exhibit better attitudes toward learning mathematics.

- Students will acquire skills which will provide them more opportunities in the job market.

PROGRAM AREA: Mathematics
CONSIDERATION: HISTORICAL TOPICS

PRESENT STATUS

Historical topics in mathematics make the student aware of the processes involved in the development of mathematics and the personalities and thought processes of mathematicians. By discussing the historical development of a particular mathematical principle, the teacher can alleviate, to some extent, math anxiety while lessening the esoteric nature of the discipline.

At present the county's mathematics curriculum consists of behavioral objectives organized into seven concept strands. Since suggested activities are not a part of the mathematics curriculum guides, there is no reference to the history of mathematics. Therefore, the number of historical topics presented to students is left to the teacher's discretion. Teachers utilize, to a limited degree, books on the history of mathematics and texts containing historical anecdotes. However, nothing is being done on a countywide basis to facilitate the use of mathematics history to introduce or supplement mathematical topics.

MAJOR RESEARCH FINDINGS

A review of the literature produced the following findings:

* *The history of mathematics has been used successfully to introduce and supplement mathematical topics.*
* *Historical items can motivate, entertain, and interest students.*
* *Insight for student understanding of a particular mathematical concept can be provided by presenting an historical overview of the concept's development.*
* *There exists an abundance of sources containing historical items and suggestions for their use in the classroom.*

RECOMMENDATION

A solid background in mathematics is a necessity in today's society. One way to encourage students to take as much mathematics as possible is to incorporate historical

items relating to mathematics throughout the curriculum. The history of mathematics has been used successfully to introduce and supplement mathematical topics, as well as to demonstrate mathematics' contribution to society. Historical items can motivate, entertain, and interest students as well as provide insight for the development of a particular concept. By removing some of the mystery students perceive as surrounding the study of mathematics, the history of mathematics can provide a valuable vehicle for maintaining and increasing student interest and enable teachers of mathematics to reach a larger audience. Therefore, the Committee recommends:

* INCORPORATION OF THE HISTORY OF MATHEMATICS INTO THE MATHEMATICS CURRICULUM.

In implementing the above recommendation, the Committee proposes:

1. Identifying sources of historical items for K-12 mathematics.

2. Incorporating activities into the curriculum which relate the history of mathematics to existing learning objectives.

The foregoing recommendation will require:

a. development and implementation of inservice programs for teachers of mathematics, K-12, which make participants aware of the many sources of historical items and how to use them in the classroom to enhance and improve instruction

b. acquisition of appropriate sets of materials containing historical items in mathematics by each school for teacher and student use

OUTCOMES

With adoption of this recommendation, the following outcomes are projected:

- Students will demonstrate an increased understanding of the contribution of mathematics to society.

- Students will acquire an increased knowledge of the origin and development of mathematical concepts and procedures

- Students will exhibit improved attitudes and increased motivation as they relate to the learning of mathematics

PROGRAM AREA: Mathematics
CONSIDERATION: PROBABILITY AND STATISTICS

PRESENT STATUS

Probability is a mathematical discipline used to quantify and explore the likelihood of chance occurances. Closely related to probability is the study of statistics which is used to organize and interpret a set of data. Statistical procedures are used to determine whether or not an observed difference is significant. They are invaluable in research and provide an objective basis for decision making.

Students are exposed to the mathematical concepts and processes relating to probability and statistics throughout the K-12 mathematics program in Anne Arundel County, with specific learning objectives in this overall area of skill development in the county's mathematics curriculum guides. Some of these learning objectives have been listed as basic minimum requirements at certain grade levels. For examples, students at the second grade level should be able to order sets of numbers from largest to smallest and recognize relationships between pairs of numbers; students at the end of the fifth grade should be able to assemble a large group of numbers to find measures of central tendency; by the end of the eighth grade, students should be able to demonstrate basic theories of probability through experiments, graphs and diagrams. On the other hand, some needed skills in probability and statistics are not reflected in the curriculum guides. For instance, additional objectives pertaining to parametric and non-parametric statistics are needed if students are to determine the validity of conclusions based on the application of statistical procedures to a set of numerical data.

In addition to this curriculum-wide emphasis, a specific, one-semester course in probability and statistics is offered as an elective at the senior high school level with Algebra II as a course prerequisite. Single units or chapters on this subject are found in other high school math courses, such as Algebra II, and may be taught at the teacher's discretion.

Four of the county's 12 senior high schools conducted the one-semester elective course during the 1978-79 school year. The remaining schools were unable to conduct the course due to small enrollment. Therefore, a number of interested students were unable to take the course and acquire advanced learning experiences in probability and statistics.

At present, there are no standardized instruments or procedures designed to ensure that students are acquiring the skills in probability and statistics needed to interpret intelligently the vast amounts of data they will encounter throughout their lives.

Currently there are no inservice programs in place specifically designed to facilitate instruction in probability and statistics.

MAJOR RESEARCH FINDINGS

A review of the research and literature produced the following findings:

* *In a society in which people constantly encounter numerical data, it is imperative that they be able to*

interpret it. Hence, basic concepts of probability and statistics should be acquired by everyone. A person is not truly functional in our society without some understanding of probabilistic and statistical concepts needed to interpret data and determine the validity of claims based on reported data.

* *Data from the National Assessment of Educational Progress (NAEP) indicated low performance on probability items at all levels. Only items related to graphs and tables were answered at acceptable levels among the statistical items. There was approximately a 5% decrease in performance on probability and statistics items from the 1973 assessment to the 1978 assessment.*

* *There is general agreement among mathematics educators as to which skills related to probability and statistics should be acquired by students. They include: exploring data for patterns; reading and interpreting graphics, tables, and charts; representative sampling from populations; descriptive measures such as mean, median, mode, and standard deviation; likelihood of future events; how mathematics is used to help make predictions such as election and weather forecasts; ability to extrapolate and interpolate (make reasonable projections and assumptions) and know when such extrapolation and interpolation is justified; and testing hypotheses using both parametric and non-parametric statistical methods (those which do, and do not, assume a particular population distribution).*

* *Nationwide few elementary curriculum guides require teaching topics from probability and statistics. At the secondary level most instruction in this area is accomplished through a semester course in probability and statistics for academic students. The number of schools offering this course is increasing. There are few courses in probability and statistics for non-academic students. Lack of teacher training has been cited as a cause for excluding probability and statistics content from many mathematics programs.*

* *Studies indicate that children acquire some of the basic concepts of probability quite early (6-8 years old) from everyday experiences and that by the seventh grade they may be able to acquire knowledge of some of the abstract theory of probability. Therefore, it is feasible to teach probability concepts throughout the 1-12 mathematics program. Teacher judgment and flexibility are required to make use of appropriate probability activities.*

* *There is evidence to support the introduction of basic notions of statistics very early in a child's school experience. Hence, it is feasible to integrate statistical concepts throughout the K-12 mathematics program. Statistical notions which can be acquired early center on descriptive statistics and involve the processes of counting, collecting, measuring, classifying, comparing, recording, displaying, ordering, interpreting, and representing.*

* *The interdisciplinary nature of probability and statistics provides an excellent vehicle for showing how mathematical concepts are applied to other disciplines. Applications involving real data are made feasible with the use of computers and calculators and provide an opportunity for teachers of subjects other than mathematics to help reinforce mathematical concepts.*

* *Consumer and career applications of probability and statistics offers a means by which student attitudes toward mathematics might be improved.*

* *Use of experiments, simulations such as Monte Carlo methods, and other activity-based instructional strategies in probability and statistics have been found to result in better student attitudes. Achievement has not been found to increase significantly using these activities. However, trends do favor activity-based strategies of instruction and many activities are available to teachers through various sources.*

RECOMMENDATION

People today are confronted with massive amounts of numerical data from a wide variety of sources: newspapers, magazines, television. Consumer, financial, and civic decisions made by an individual are usually based on conclusions derived from a given set of data and reported through the media. However, the manner in which statistical methods are applied to data often leads the public to conclusions which are not, in fact, supported by the data. A democratic society depends upon people able to make informed decisions. If a person is to make wise consumer, financial, and civic decisions in a complex world, a working knowledge of proper statistical procedures, and principles of probability upon which they are based, is imperative. The lack of emphasis on probability and statistics throughout the K-12 curriculum suggests that many students may be missing experiences with probability and statistics commensurate with their ability and in line with present and future needs. Therefore, the Committee recommends:

* **MODIFICATION AND REVISION OF THE K-12 MATHEMATICS CURRICULUM TO INCLUDE THOSE CONCEPTS OF PROBABILITY AND STATISTICS NEEDED FOR STUDENTS TO FUNCTION EFFECTIVELY IN SOCIETY AND THE APPLICATION OF THEIR USE BE ENCOURAGED IN ALL OTHER CURRICULUM AREAS WHERE APPROPRIATE.**

In implementing the above recommendation, the Committee proposes:

1. Including in the curriculum minimum learning objectives pertaining to the following:

   - extrapolation and interpolation
   - consumer and career applications
   - additional descriptive statistics
   - frequency distributions
   - independent and dependent events
   - hypothesis testing using elementary parametric and non-parametric statistical methods

2. Developing units or projects in other subject areas, such as social studies and science, which would make use of probability and statistics concepts.

3. Allocating more instructional time to probability and statistics within the mathematics program.

4. Introducing some concepts of probability and statistics earlier, so that students gain at least an intuitive understanding of probability and statistics requirements by grade eight.

5. Establishing inservice programs for teachers at all grade levels which will acquaint them with appropriate content and instructional strategies needed to teach probability and statistics to their students.

The foregoing recommendation will require:

a. identifying which objectives are to be taught at specific grade levels and developing and/or locating materials, activities and suggested lessons in support of those objectives at all grade levels.

b. establishing a county collection of computer programs which simulate, develop and apply probabilistic and statistical concepts and which can be used to assist in the implementation of interdisciplinary units.

c. including, as part of the inservice programs, teacher training on how to incorporate activity-based strategies and frequent use of calculators and computers to enhance the instruction of probability and statistics.

d. encouraging academic students to take the semester course in probability and statistics.

OUTCOMES

With adoption of this recommendation, the following outcomes are projected:

- Students will better be able to collect, organize, analyze and interpret numerical data.

- Students will be able to apply concepts of probability and statistics to make informed decisions based on numerical data.

- Students will be able to apply probability and statistics concepts in other program areas.

PROGRAM AREA: Media

PRESENT STATUS

Each county public school has a library media center. In this center is located the school's collection of instructional resource material, including books, periodicals, film strips, video cassettes, sound/slide presentations and other print and non-print materials. These collections are reviewed and updated on a continuing basis to support instructional programs. As of June, 1978, average collections consisted of 19.6 items per pupil at the elementary level, 12 items per pupil at the middle/junior high level, and 10 items per pupil at the high school level. However, a large disparity exists ranging from three items per pupil in one school to 21 items per pupil in another school, with this disparity particularly in evidence at the secondary level.

Media centers are staffed according to the following pattern: at the senior high school level, two professional positions and a 12-month library technician; at the middle school/junior high level, one professional position and an aide; and at the elementary level, one professional position or less and no aides. In the case where total enrollment at an elementary school cannot support one professional position, the school splits such a position with another facility. There are 12 full time itinerant media specialists working in this "shared" capacity between two schools and 10 part time media specialists, each serving one school; two elementary schools are not served at all by a professional specialist, but rather receive services from an aide. Senior high schools may elect to fill the second professional position with 2.5 aides or obtain additional support for the media center through adjustments of other staff resources. This is done at the discretion of the principal.

The media support staff consists of six professional staff members, 30 classified personnel, and six work-study students. Thirty-six of these staff members are housed at the Green Street Office, while the other seven are located at the Riva Road Office.

Training opportunities for library media staff have included staff development workshops covering areas such as using films in the classroom, video production techniques, establishing a functioning career center, equipment operation, and preventive maintenance.

Media centers are currently used in a number of ways, including support of classroom assignments, professional research, retrieval and utilization of information, production of visual materials (including student instruction in this area) and, personal and recreational library resource usage. Present staffing arrangements do not allow for evening, weekend and summer hours at the county's media centers other than for evening high school and summer school.

Central processing of media materials has reduced somewhat the amount of time required to place incoming materials at the availability of students. Most books now come with plastic jacket, spine label, pocket, and all appropriate cards. This service costs 70¢ per book as opposed to a cost of $2.50 per book if done by county personnel.

At the present time, a scope and sequence of library media skills needed by students is not available. Such a scope and sequence is, however, now being developed K-12 and is proposed to include four documents: one containing objectives specific to media, one consisting of objectives shared with other instructional programs, one providing a media skills bibliography, and one presenting suggested activities for implementing the scope and sequence.

While there exists a basic equipment list providing for more or less equal distribution of equipment to the schools, there, nevertheless, exists a disparity among the schools at the present time in this regard as some older facilities attempt to "catch up" to recently constructed facilities which received large initial amounts of equipment funds. Moreover, it is also true that of the equipment which exists from school to school, all of it is not compatible in terms of electronic characteristics. This hinders the distribution of material from a central office, as well as the sharing of material from school to school.

On the plus side of the equipment picture, the time that equipment is in disrepair has been substantially reduced with the establishing of the audio visual equipment repair team. The result is that most of the sophisticated hardware assigned to media centers is now being used a much higher percentage of the time.

MAJOR RESEARCH FINDINGS

A review of the research and literature produced the following findings:

* *Encouragement for students to use the library media center is usually greater for classwork than for recreational or personal use, with the result that it is largely for classwork that the center is used.*

* *The process of communication between users (teachers and students) and media center staff must be evaluated and improved if encouragement for use of the center is to be broader in scope.*

* *The involvement of the classroom teacher is essential to effective library instruction.*

* *Media center staff must be considered part of the instructional staff of the school and must be involved in total program planning, implementation, evaluation and revision.*

* *The entire school staff needs to be made aware of the services offered by the library media center and how to use them.*

* *As the body of human knowledge grows, the feasibility of storing required information in a single library decreases, in turn, increases the need to create networks of libraries to meet users' requirements. (A network of libraries is a cooperative in which each member library is aware of, and has access to, resources of all member libraries. This arrangement can be organized in various ways and can be facilitated through computer-based management.)*

* *Library media programs will rely more and more on technology to provide services in the future. Computers and video discs will be widely available and found in many homes before the end of the decade, providing students instant access to a wide variety of resources. This will create a need for greater instruction for students in the use of modern media technology.*

* *In order to make school library media centers more cost effective, hours need to be expanded to make them more accessible to students and the community. This should include evening, weekend and summer hours.*

* *Library media center users need to be taught how to locate and use equipment for viewing and producing non-print materials.*

RECOMMENDATION

The library media center provides support services in all instructional areas. A variety of print and non-print materials is available in each school's media center along with facilities for media production. However, there exists a wide disparity in school collections and equipment and in the delivery of services. The utilization of the latest technology and cooperation with other libraries are means of reducing this disparity. If library media centers are to be used effectively and efficiently, collections must be maintained at appropriate levels; library media staff must be involved in total program planning, implementation, evaluation and revision; and, most importantly, students must be taught how to utilize fully the services available to them through the library media center. Therefore, the Committee recommends:

* DEVELOPMENT OF A K-12 CURRICULUM FOR THE LIBRARY MEDIA PROGRAM AND THE EQUALIZATION OF THE DELIVERY OF SERVICES AMONG SCHOOLS.

In implementing the above recommendation, the Committee proposes:

1. Completing and implementing the scope and sequence of media skills needed by every student. Use of various instructional technologies impacting media services should be included.

2. Involving media staff in both system and school based program planning, implementation, evaluation, and revision for all instructional areas.

3. Equalizing the delivery of media services by establishing criteria for staffing, media materials, equipment, and facilities.

4. Clearly defining the responsibility of classroom teachers and media staffs for educating students in the use of library media centers and their facilities.

5. Establishing a network of school, public, academic, and special libraries to make efficient use of available resources and expand services to users.

6. Using computer technology to make available a variety of data bases for student and staff retrieval for such purposes as inter- and intra-library loans, direct instruction, networking, research, ordering, film and video distribution, and cataloging.

7. Preparing for and utilizing available and evolving technologies to enhance library media services. Microprocessing, microcomputers, video, lasers, and other technologies impacting media services should be considered.

The foregoing recommendation will require:

a. Inservice programs to make effective and efficient use of library media services and resources. This would include programs designed for:

   - library media personnel to upgrade skills necessary for present and evolving technologies; and

   - teachers, counselors, and administrators to increase their competency in using library media services.

   A major objective of these programs is to create an awareness of the essential and unique services that library media pesonnel must assume in program development and implementation.

b. Additional staff time to complete the scope and sequence of library media skills and accompanying documents.

c. Procedures to implement the scope and sequence. They should include inservice programs, administrative support, and review and evaluation.

d. Standards for media staffing at the secondary school and central office levels to be established and implemented.

e. Implementing the elementary school staffing guidelines for media personnel (see Staffing section of this document).

f. Countywide standards for media collections and needed equipment be identified and implemented.

g. Hours of operation to be expanded in schools where the need has been identified including days when schools are not open.

h. Additional staffing to be required to expand hours of operation.

i. At least each secondary media center to have a computer terminal tied into a central computer with access to data bases and networking services.

j. The placement of TV studios in each high school to be discontinued. A central studio equipped for productions is required instead. Each school should be equipped with a minimum of a master antenna system, receiver monitors, video recorders, and a portable TV camera.

k. Identifying and implementing a procedure for a network of libraries.

l. Scheduling arrangements be developed to insure that all students have time during the school day to use the media center and at the elementary level, to receive media instruction on a weekly basis.

OUTCOMES

With adoption of this recommendation, the following outcomes are projected:

- Students will better be able to retrieve and utilize information available in library media centers.

- Students will have greater access to a larger body of information.

PRESENT STATUS

The music program in Anne Arundel County Public Schools offers a variety of musical experiences for children. All schools provide instruction to help students gain skills, knowledge, and appreciation of music while actively participating in the making of music. Students have opportunities to sing, play instruments, listen to, compose, and interpret music at levels appropriate to their capabilities . Instruction is available for the individual, small group, and large group. Performing groups may be organized according to the musical experience and ability of students. For talented students who wish to pursue a musical career or participate in musical activities in their leisure time, advanced courses are offered.

The Goals and Objectives for Music (1976) defines in a general way what music instruction includes for grades K-12. More specific direction is given to grades K-6 by A Curriculum Guide for the Music Education Program in the Elementary School (1968). The program emphasizes the importance of continuous mental, muscular, visual and aural skill building. However, there is currently no formal scope and sequence for the elementary music program. Also available at the elementary level is Operational Practices and Procedures for Instructional Music (1972). This manual is an aid in organizing and managing the elementary instrumental program. There is also Definitions of Performance Competencies for Instrumental Students (1975) and Musicianship Tests (1976) for grades 3 through 12.

A Guide for Teaching in the Elementary School (1977) recommends that all students except those in kindergarten be scheduled for general music instruction for two 30-minute periods each week. The kindergarten program does not have a specific time allotment for music, but does encourage integrating musical activities. Kindergarten is the only grade level where music instruction is not provided by a music teacher. In addition to general music, students in grade 3 may begin strings instruction; starting in grade 4 students may choose to take instrumental and/or choral instruction.

At the secondary level, Music Curriculum for the Secondary School (1974) for grades 6 through 12 contains a philosophy of music and identifies broad behavioral objectives. In addition, a scope and sequence chart for grades 6, 7, and 8 gives some direction as to which grade level specific concepts should be introduced or reinforced. However, only concepts, not skills, objectives or behaviors, are delineated for courses offered at this level with the exception of instrumental music. The senior high level has guides for the history of rock, current popular music, and musicianship.

At the middle/junior high school level, students take two of three of the following courses each year: music, physical education, foreign language. Students taking music select from general (exploratory) music, chorus, instrumental music, keyboard, or guitar.

At the senior high level, there are 28 different music electives offered by the county. A few examples of these electives are vocal ensemble, stage band, musical theater, and electronic music. Three electives - guitar, keyboard, and vocal/recorder/percussion - are offered at four levels of skill development.

There is not always provision for continuity of skill building from elementary to middle/junior to senior high level. For example, string teachers provide basic instruction at the elementary level and students may select courses relating to strings at the

middle/junior/senior high level. However, not every secondary school offers a string instruction program. The same situation may occur with band, orchestra, chorus, keyboard, or guitar. In addition, scheduling conflicts in the secondary schools further hinder many students from taking music classes. (The six instructional-period day may not allow room for a music elective each semester and/or many times a particular music class may be offered during only one instructional period.)

Entrance into certain courses at all levels may depend upon the student's meeting of certain requirements. For example, entrance into chorus in some schools may depend upon selection through audition. For instrumental programs, students are asked to provide their own instruments when school-owned instruments are not available.

There appears to be a universal need for increased replacement of equipment as it wears out, is vandalized or stolen. The inequities which exist in equipment inventories between schools are alleviated to a very minor extent by certain communities taking an active part, through extensive fund-raising, to help schools add or replace equipment. These communities also help in providing uniforms for bands, orchestras and choruses since the county does not provide them.

At the elementary level, music teachers frequently do not have a permanent location in which to teach music. Also, the facilities at all levels frequently do not have the appropriate acoustical features important to the music program and necessary to prevent disturbances to other instructional programs.

Staffing at the elementary level for 1979-80 includes 64 general and vocal positions, 11 string positions and 19.5 band positions. Vocal teachers usually work in no more than two schools while string teachers work in four to six schools, and band teachers work in three to five schools. Most of the elementary music teachers must prepare for and teach up to nine different instructional groups (grade levels, exceptional children, ensembles). The number of classes taught per day ranges between seven and nine.

Staffing at the secondary level for 1979-80 includes 48.5 vocal positions and 30.5 instrumental positions. Secondary music teachers usually teach two to eight courses, with up to five of them scheduled in a given day and requiring a wide range of preparations.

With regard to staff development, 10 different workshops have been offered and conducted for music teachers by the school system since 1974. Six of these workshops were given in 1974 and 1975, while the remaining four were given in 1978 and 1979.

MAJOR RESEARCH FINDINGS

A review of the research and literature produced the following findings:

* *Traditionally, in the United States, the arts have been taught as a separate discipline, subordinate to other school subjects. Current reorientation and reappraisal endorse the concept that music and the arts are basic to learning.*

* *The impact of a music curriculum on a person's life may be as great as that of any other curriculum area.*

* *Early childhood is the most critical period for learning fundamental concepts and skills in music.*

* *Potential for musical growth declines with age.*

* *Children who learn to enjoy music during early childhood make an important beginning toward acquiring an enduring source of personal pleasure.*

* *The largest part of musical perception belongs to the brain's right hemisphere with its holistic ability to integrate, almost instantly, complex and varied sensory input. The left hemisphere of the brain, primarily involved with analytical and logical thinking, cannot deal with simultaneous input except by alternating attention quickly.*

* *Music has been shown to contribute to personal development, expression, creativity, awareness, and the cultural heritage of mankind.*

* *High levels of musical ability appear to be attained through parental encouragement and approval of the child's musical activities.*

* *Music can serve as a methodological tool in teaching children academic skills such as reading, language arts, and mathematics.*

* *The Suzuki method is so effective that children as young as three years of age are taught to play intricate passages of difficult solo and symphonic compositions.*

In addition to the previous findings from literature and research, a national assessment of performance in, knowledge of, and attitudes towards music was conducted by the National Assessment of Educational Progress in 1974. This assessment showed that:

* *Knowledge of musical notation and terminology appears to be somewhat limited in most individuals.*

* *By age 13, children have as clear a grasp of many musical concepts as do adults.*

* *Very few individuals are familiar with the history or literature of music.*

* *People are involved at the simplest level with the activity of music -- they can sing and like to sing, they hear enough music to recognize the instruments, and they like to listen to music.*

RECOMMENDATION

Research shows that the impact of a music curriculum on a person's life may be as great as that of any other curriculum. Also, music is primarily a right-hemisphere (holistic) activity whereas most of education has long been devoted to just left-hemisphere (analytic) activites. In addition, the continuity of skill building from elementary through senior high school may not always be provided because not every level or every school offers the instruction needed. Therefore, the Committee recommends:

* A COMPREHENSIVE MUSIC PROGRAM BE PROVIDED FOR ALL STUDENTS K-12.

In implementing the above recommendation, the Committee proposes:

1. Development of a comprehensive K-12 music curriculum which identifies instructional objectives, content, and sequence of skills.

2. Provision for 15 minutes daily for musical activities integrated into the kindergarten program.

3. Scheduling of consultation time between the kindergarten teacher and music teacher.

4. Establishment of a uniform exploratory music program for the first year of middle/junior high school for all students except those scheduled in music ensembles.

5. Requiring at least one music elective each of the last two years of the middle/junior high school experience following the first year exploratory program taken by all students.

6. Provision for courses in band, orchestra and chorus to be available at every secondary school during the instructional day.

7. Development of a system for articulation between elementary and middle/junior high schools as well as between middle/junior and senior high schools to provide for continuity of course offerings.

8. Revision of record-keeping procedures to improve articulation and follow-up of students' skills from elementary through senior high school.

9. Provision for vocal, string, and band instruction by teachers with expertise in the respective areas.

10. Development of a handbook to standardize procedures for organizing instrumental programs — such as scheduling, recruiting, rental of equipment.

11. Piloting and implementation of Suzuki Talent Education instruction beginning with early childhood. (The philosophy includes the involvement of parents, step-by-step mastery of skills, and beginning early - perhaps as early as age three.)

12. Provision for staff development.

13. Development and implementation of a plan for replacement and equalization of equipment from school to school.

14. Providing band, orchestra and chorus uniforms for all participants in these activities at school system expense, as now provided for the athletic program.

15. Identification and standardization of entrance requirements for band, orchestra, and chorus.

16. Provision of adequate teaching locations in all elementary schools, exclusively designated for music instruction.

The foregoing recommendation will require:

a. sufficient time and personnel to develop curriculum.

b. revision of middle/junior high school music program philosophy to produce a program offering exploratory experiences the first year and electives the final two years.

c. an increase in the number of music teachers.

d. an alteration in the staffing assignments of music teachers.

e. development of appropriate elective curricula.

f. hiring of teachers trained in the Suzuki method and/or training for presently-employed teachers.

OUTCOMES

With adoption of this recommendation, the following outcomes are projected:

- The music curriculum will provide courses that are commensurate with all students' abilities.

- Students will have continuity in the sequence of music objectives, content and skills.

- Students will receive music instruction.

- Students will have opportunities for vocal, string and band instruction in every school during the instructional day.

- School facilities and equipment will reflect program needs.

PROGRAM AREA: Physical Education
CONSIDERATION: CURRICULUM

PRESENT STATUS

Physical Education is a planned sequence of learning experiences designed to fulfill the growth, development and behavior needs of each student through a wide variety of physical activities. The program is designed to involve all students each year in grades 1 through 8, and in the senior high school years through the earning of one full credit as a requirement towards graduation.

All courses at all levels of instruction are open to both male and female students, in compliance with Title IX regulations of the federal government.

Elementary school course guides were issued in 1979, reprinted without revision from the 1968 edition. An organization and administration handbook for middle schools was issued in 1980, with course guides for the middle school program to be available for the 1980-81 school year. Presently, junior and senior high schools are using a 1974 guide, plus course outlines developed by teachers at individual schools. A master guide of all course outlines for secondary schools is projected for use in the 1980-81 school year.

Scheduling times for physical education classes differ by grade level. Although there is no formal program delivered by the physical educator for kindergarten students, specific activity skills are included in the kindergarten curriculum, with the physical educator acting as a consultant t_ regular kindergarten teachers. In some cases, the physical educator provides specific instruction to students with special motor problems. The Maryland State Department of Education recommends that students in the primary grades (1-3) receive 100 minutes of physical education instruction per week, and that intermediate grades (4-6) receive 150 minutes per week. In Anne Arundel County, however, elementary students in both groups, in most cases, receive two 30-minute periods of physical education per week as recommended by the county school system in it's 1977 document, A Guide for Teaching in the Elementary Schools. In the past, some schools have scheduled one 60-minute period per week, but it was found that this did not address the need for continuous physical activity. Directions have been given for this practice to be discontinued in the 1980-81 school year.

Time allotments call for all middle school students and those in grades 7-8 of junior high schools to take physical education every other day throughout the school year. As a practical matter, however, scheduling pressures frequently produce cases where this does not happen. Students who elect to take a foreign language and instrumental music, for instance, are unable to schedule physical education. In many schools, students elect to take two of the above three courses, with the third simply omitted from the schedule. Because of this, program time allotments for physical education on alternate days throughout the entire year are often not being implemented.

At the senior high school level, all students must take one full credit in physical education in order to meet graduation requirements in Maryland. The physical education courses are offered for one semester for one-half credit. Students must complete one-half of this requirement in the grade 9, with the remaining half credit to be taken in grades 10, 11, or 12. Exceptions are made in the case of vocational education students who, because of scheduling difficulties, are allowed to fulfill the one-credit physical education graduation requirement by taking a second semester of physical education in the 9th grade.

In the elementary schools physical education is defined as "directed, purposeful activity, centered around the entire body, its movement, care and use." It includes learning situations that develop students physically, mentally, socially and emotionally. These include, but are not limited to, calisthenics, locomotor movements, mime, rhythms, classroom games, ball handling, relays, stunts and tumbling, gymnastics and, in the upper grades, team sport activities such as basketball, football, soccer, softball, and volleyball.

In the middle, junior and senior high schools, programs offer opportunities for specific skill development through courses such as dance, rhythm, gymnastics and slimnastics; for team sports, through programs such as lacrosse, soccer, basketball and others; and for development of physical coordination and dexterity through conditioning exercise and weight training. In addition, at the senior high school level, opportunities exist for development of more generalized, all-purpose skills through courses such as Lifetime Sports and Recreational Games. These generalized skill development opportunities do not exist, however, in great abundance. There are few courses, Lifetime Sports the exception, in which students find themselves involved in the kind of physical activities in school that they will most likely be involved in after graduation. Lifetime Sports is also one of the few courses which appear not to produce enrollment of predominantly one sex or the other. Enrollment in dance, rhythm, gymnastics and slimnastics is predominantly female, while enrollment in most team sports programs and weight lifting activities tend to be predominantly male.

Lifetime Sports is slated to be included in the physical education program guide for middle/junior high schools, is scheduled to be completed for the 1980-81 school year.

Students in all physical education programs are graded on the basis of meeting basic requirements of preparation and participation. Additionally, it is the philosophy of the physical education program that students be graded on their individual achievement. However, it has been reported that, in some cases, this philosophy has not been put into practice and that students are, in fact, graded on a class standard -- a standard which is established by the achievements of the group's most physically gifted students.

This tendency has particular ramification when considered in light of Title IX requirements, which have produced co-educational physical education classes throughout the county. Title IX has had several impacts upon the program as a whole, not the least of which is the placing of inhibitions on some students who may find participation in highly physical activities uncomfortable and awkward in the presence of classmates of the opposite sex.

There were 61.7 elementary and 148 secondary physical education teachers in the county during the 1979-80 school year. The central office staff includes both a coordinator and an assistant coordinator of health and physical education.

Staff development activities in physical education have included 13 state-approved workshops, each of which is offered for one credit. Those workshops most frequently taken by county teachers since 1976, are "Care and Prevention of Athletic Injuries" and "Standard First Aid" -- both of which are required of all coaches. Six other workshops have been conducted since 1976. The five remaining state-approved workshops have not been offered since that time. While it is true that elementary school physical education teachers may take these workshops and will no doubt derive some benefit from them, most of the workshops are planned for secondary education teachers.

In terms of facilities, all but two elementary schools have a gym or a multi-purpose room in which physical education classes are held. Specifically, 19 have separate

gymnasium facilities, while 53 do not. Those schools without separate gyms experience regular interruption of the instructional program during lunch periods and occasional interruption when assemblies are held, large group use is made of the area, or other functions are assigned to the multi-purpose room.

At the secondary school level, all schools have a separate gymnasium. Separate facilities for dance, gymnastics, weight training and wrestling classes vary greatly from school to school. Some classes meet in multi-purpose rooms or make-shift areas such as portable classrooms or converted storage areas which provide limited flexibility and adaptability due to low ceilings, limited square footage and other restrictions. At times, especially when gymnastic equipment is set up, conflicts arise in scheduling the school for use by outside community groups. Storage space is an additional concern in many schools.

In most cases, there is adequate outdoor space for physical education programs and activities. However, many of these outdoor areas need improvement to eliminate safety hazards and to render them usable to their maximum advantage. There are 112 tennis courts at county schools. Seventy-five of these courts are located at senior high schools. Some junior/middle schools share these courts. Junior/middle schools have an additional 26 courts that are not shared. The remaining 23 courts are available for use at 11 elementary schools.

MAJOR RESEARCH FINDINGS

A review of the research and literature produced the following findings:

* *Physical education is essential for all students from pre-kindergarten through grade 12. The daily instructional period for elementary school pupils should be at least 30 minutes in length, exclusive of time allotted for dressing, showering, recess, free and/or supervised play periods, and noon-hour activities. All pupils, including those participating in varsity athletics, sports' clubs, dance clubs, and the like, should be involved each year in the instructional phase of the physical education program.*

* *The senior high school program should emphasize lifetime sports and carryover activities as well as the involvement, knowledge and understandings necessary to provide insight and motivation for a lifetime of vigorous physical activity. The achievement of personal physical fitness during the school years and the maintenance of fitness throughout adult life should become the goal of every student. Every effort should be made to allow senior high school students the opportunity to select activities appropriate to their own needs and interests.*

* *Elementary curricular programs have remained about the same, but there is a definite trend to increase program time.*

* *Modular scheduling allows for greater flexibility in physical education course offerings in middle, junior and senior high schools.*

* *Many successful physical education programs have devised a skill-based, differentiated, individualized grading system with Pass/Fail grades, accompanied by a written evaluation.*

* *Medical authorities have urged schools to provide regular programs in circulatory and endurance activities for all children, kindergarten through grade 12. The cardiovascular system should be stressed at least 30 minutes a day through vigorous activity. Where this is not provided, children can be shown to progressively decondition and can be shown to be in alarmingly poor cardiac condition.*

* *Newly designed physical education curricula give emphasis to a wide variety of fitness and conditioning courses and team and individual sports.*

* *Scores on the National Youth Fitness Test have not improved in 15 years. Excess weight is a significant factor in the low level scores on fitness and performance tests.*

* *To upgrade the status of the nation's physical fitness, the President's Council on Physical Fitness has been directed by the White House to:*

    1. *establish a Governor's Council on Physical Fitness and Sports in all of the 50 states.*

    2. *establish daily physical education at all grade levels.*

    3. *urge all employers to make facilities available for employee fitness programs.*

    4. *encourage all federal departments and agencies to support physical fitness programs, and that would include our military services as well.*

* *Daily physical education at all levels is essential in order to have the most direct and positive means of improving physical fitness and promoting leisure sports' activities in this country.*

* *Recent development in the field of recreation, including leisure counseling, should be incorporated in future physical education programs so that students are able to identify their interests, correlate these with their capabilities, and develop personal activity programs aimed at achieving health, physical, and leisure goals.*

* *Our current leisure activity patterns demonstrate the desire to save time. For example, fast-growing sports such as racquetball and handball are time saving sports. Lack of time is the most frequently given reason preventing participation in outdoor recreation.*

RECOMMENDATION

A quality physical education program will develop physically fit youth with a variety of sports' skills and positive outcomes in the areas of sportsmanship, citizenship and leadership. In addition, students develop favorable attitudes toward lifetime sports. Regular and vigorous physical exercise at all ages is the most direct and positive means of improving fitness. Despite the increased popularity of exercise, fitness concepts have not been stressed in the childhood years when the habits of a lifetime are formed. The United States has more recreational opportunities than any other country and the best medical science system in the world. Yet, this country leads the world in degenerative diseases, indicating a need to stress the importance of individual fitness. Physical education constitutes an essential part of the total education program and makes significant contributions toward the achievement of desirable educational outcomes. Therefore, the Committee recommends:

* FULL IMPLEMENTATION OF THE REQUIREMENT THAT PHYSICAL EDUCATION BE A PART OF EACH STUDENT'S PROGRAM IN GRADES K-8, AND GREATER EMPHASIS ON LIFETIME SPORTS ACTIVITIES IN THE ELECTIVE PROGRAM BEYOND THE ONE-CREDIT REQUIREMENT AT THE SENIOR HIGH SCHOOL LEVEL.

In implementing the above recommendation, the Committee proposes:

1. **Daily involvement by all elementary students in organized physical exercise activities.**

2. **Instruction in physical education on an alternate-day basis for all students in grades 1-8.**

3. Involving more students in grades 9-12 in daily physical activity.

4. Refinement of the K-12 curriculum to include more provisions for gifted and talented physical education students.

5. Modify the curriculum so that physical fitness concepts are integrated with health standards.

6. Elimination of interruption of the physical education program.

7. Elimination of safety hazards from all indoor and outdoor facilities.

8. Strict adherence to the county program philosophy which states that all students shall be graded on the basis of individual performance and progress and that no student shall be graded on the basis of class standards artificially created from year to year by the most proficient students.

9. Updating curriculum to reflect current lifetime sports, and closer correlation between a greater number of elective physical education offerings and those physical activities in which students are most likely to be involved after graduation.

10. Broadening of the workshop topics to include those meeting the specific needs and interests of teachers at the elementary school level.

The foregoing recommendation will require:

a. the scheduling of physical education by a physical education instructor on a 30-minute-period alternate-day basis for all elementary students, excluding kindergarten students.

b. provision of time by the elementary classroom teachers for daily physical activity on days when students do not have physical education.

c. revision of the physical education curriculum and staffing patterns to reflect the increased emphasis on physical fitness, and the greater attention toward gifted/talented students.

d. implementation of alternate-day physical education instruction for all students in grades 1-8.

e. offering a broad range of electives with emphasis on lifetime sports in the senior high curriculum.

f. providing new facilities and/or adjusting scheduling to eliminate conflicts with other activities.

g. upgrading indoor and outdoor instructional areas to accommodate curriculum and to eliminate safety hazards.

h. development of inservice training to acquaint classroom teachers with techniques to maintain physical fitness, including emphasis on individual counseling for fitness and leisure.

OUTCOMES

With adoption of this recommendation, the following outcomes are projected:

- Students will have an increased awareness of the importance of physical fitness.
- Students will demonstrate increased involvement in various forms of physical activity.
- Students will have more skills for lifetime sports.
- Students will be in better physical condition.

PROGRAM AREA: Physical Education
CONSIDERATION: DROWNPROOFING PROGRAM

PRESENT STATUS

Drownproofing techniques include both survival swimming and survival floating skill development to increase the endurance of students to improve the ability to care for themselves while in the water. The teaching of survival swimming is also quite different from the teaching of swimming. Training in drownproof floating and survival swimming helps condition students to move slowly in the water in order to conserve energy. Simply treading water, back swimming and doing the crawl stroke do not provide maximum security against drowning. Determination of individual bouyancy is of primary importance in selecting the technique for each body type. Drownproofing instruction incorporates a concentrated study of water safety precautions and first aid, including cardiopulmonary resuscitation and treatment of hypothermia (sudden and dramatic drops in body temperature, usually due to exposure).

A limited drownproofing program in Anne Arundel County has evolved from an increasing involvement of schools with the Outdoor Education Center and a growing awareness of the kinds of services the center is capable of offering. However, this program has never been approved by the Board of Education. Currently, a number of our elementary schools participate in a drownproofing program. Total responsibility for conducting this program has rested with the Outdoor Education Staff. However, the number of schools requesting the program has steadily grown creating increased demand for a more unified and organized approach. It has been a goal of the Office of Physical Education to include swimming and drownproofing as a part of the regular curriculum. Discussions have been held by the coordinators of physical education and outdoor education to investigate the feasibility of offering a drownproofing program for all fifth graders of the county.

The availability of an indoor pool facility at Fort George G. Meade made it possible for the school system to offer a drownproofing program on a limited basis in January, 1980, for 227 fifth graders from West Meade, Pershing Hill and Manor View Elementary Schools. In addition, the availability of outdoor facilities during the warm weather months at Arlington Echo, West River Camp and at the Milburn Community Pool made it possible to conduct programs for 620 fifth graders from Point Pleasant, Severna Park, Van Bokkelen, Edgewater, Tracey's and Bodkin Elementary Schools during May and June. These pool experiences consisted of five periods of 45 minutes each.

A tentative guide was developed and reviewed by the coordinators of physical education and outdoor education based on evaluation of the project at Ft. Meade. In addition to defining the five-day pool experience and how it shall be conducted, the guide describes classroom activities to be undertaken before and after these swimming experiences. The classroom activities include topics such as basic rescue techniques, ice rescue techniques, rescue breathing, emergency treatment of hypothermia, use of floatation devices and water safety.

Responsibility for inservice training of teachers prior to their involvement in the program is assumed by the Office of Physical Education. Other aspects of program implementation, such as funding for staff and location of facilities, is the responsibility of the Office of Outdoor Education.

Plans are to offer the program for all schools wishing to participate and able to find a facility in which the program may be conducted. Currently, the two facilities at the county's outdoor education sites are the only pools which can be relied on in terms of certain availability. A privately owned community pool at Herrington Harbor has been offered for use from time to time as well. Swimming instruction at the outdoor pools is limited to the days between May 30 and the close of the school year, less days lost to inclement weather.

Even under ideal weather conditions, no more than 20% of all fifth graders could be served by these facilities in any one year. Presently, there are no facilities available year-round for school use in water safety instruction. It is estimated that 3,750 different students could be drownproofed per year if the pool at Arlington Echo were winterized.

The costs associated with transporting students are shared between state and local education agencies, the major expense being assumed by the state. Instructional costs are estimated to be $41,000 per year for one teacher, two aides, equipment and materials of instruction. Maintenance and operation cost estimates are $22,000 yearly.

Thirteen community owned pools would be needed to drownproof all the children enrolled at the fifth grade level in any given year. The Health Department of Anne Arundel County is currently compiling a list of community pools over 75,000 gallons that are potential drownproofing centers.

MAJOR RESEARCH FINDINGS

A review of the research and literature produced the following findings:

* *More than 100 million people go swimming and over 50 million boaters use the waterways each year.*

* *Nationally, 8,000 people die in water related accidents annually. More than half of the nation's drowning fatalities occur among people between the ages of 5 and 24.*

* *Nationally, drowning is the third largest cause of accidental death when all age groups are considered. If only the age groups of 44 and below are considered, drowning becomes the second largest cause of accidental deaths.*

* *Eighty-five percent of all drowning victims are males. Two-thirds of these people never intended to enter the water at all. They fell into the water from docks, piers, river banks, swimming pool aprons, or as a result of a boating accident.*

* *In 1972, 4,700 drownings were non-swimming fatalities, 2,900 occurred while persons were swimming or*

playing in the water, 1,318 resulted from boating accidents.

* *The proportion of fatalities during the months when the waters are cold is much higher than during the warm water months. The problem seems especially acute during the time of the year when the air is warm and the water is still cold.*

* *Exhaustion is a major cause of drowning. Training in drownproof floating and swimming conditions swimmers to move more slowly and conserve energy.*

* *The energy expended while a swimmer is treading with the head above the surface or swimming the crawl stroke has proven to be much greater than when floating.*

* *Nearly all nonswimmers learn to swim at least one mile and float an hour in deep water within five to 12 one-hour sessions of drownproof technique instruction.*

* *A K-12 aquatics component is projected to be included in the Maryland State Department of Education (MSDE) framework for physical education.*

* *Accidental drownings reported by the Maryland Vital Statistics Annual Report - 1977 and 1978:*

Year	Total	Male	Female	Under 1	1-4	5-14	15-24	25-44	45-64	65+
1977	113	102	11	2	8	10	35	32	19	7
1978	85	70	15	1	4	17	29	17	14	3

* *In 1970, 90 accidental swimming deaths occurred in Maryland. Counties reporting the highest number of drownings were Anne Arundel and Baltimore, both with 17.*

* *Anne Arundel County ranks consistently either number one or number two among the 23 counties in Maryland for the largest number of annual drownings.*

* *Anne Arundel County has 419 miles of tidal shoreline available for aquatic activities. This is more than any other county in Maryland.*

RECOMMENDATION

Ideally, persons who engage in aquatic-related sports should know how to swim well, but as more people become involved in aquatic-related recreational and occupational activities, the percentage of good swimmers decreases. The three major causes of drowning are failure to recognize hazardous conditions and practices, inability to get out of dangerous situations, and lack of knowledge of safe ways in which to aid drowning persons.

Due to the proximity of the ocean, the bay and its many tributaries, county students have great access to swimming and boating. Yet many students do not know what to do in an emergency on or around the water. Therefore, the Committee recommends:

* INCLUDING WATER SAFETY, WITH SPECIAL EMPHASIS ON DROWNPROOFING, AS AN INTEGRAL PART OF THE PHYSICAL EDUCATION CURRICULUM.

In implementing the above recommendation, the Committee proposes:

1. Developing a comprehensive K-12 water safety curriculum.
2. Expanding the current drownproofing program to include all students in grade five.
3. Developing a plan to provide facilities and personnel for the program.
4. Developing and implementing inservice training.

The foregoing recommendation will require:

a. Sufficient time and personnel to develop curriculum.

b. Development of evaluative measures to assess program goals and objectives.

c. Providing pools and instructors to carry out drownproofing instruction.

OUTCOMES

With adoption of this recommendation, the following outcomes are projected:

- Fewer people will be drowning victims.

- Students will acquire more water safety skills and knowledge.

- Students in grade five will demonstrate drown-proofing skills.

PROGRAM AREA: Physical Education
CONSIDERATION: INTERSCHOLASTIC AND INTRAMURAL SPORTS

PRESENT STATUS

An extended day interscholastic/intramural activity provides opportunities for students to explore special interests, refine athletic talents, and extend the skills and objectives of the physical education program. Every student is given the opportunity to participate in extended day activities.

A well-balanced intramural program provides opportunities for all students to voluntarily participate in a variety of activities that are vigorous or quiet and competitive in nature. These activities provide for individual, group and team competition. Presently there are no organized intramural programs in the junior or senior high schools. The middle school philosophy encourages the creation of a learning setting that is relatively free from the pressures of sophisticated and highly organized social and athletic events. All ten middle schools have intramural sports' teams that meet before, during or after school. Schools in which the intramural program is conducted during regular school hours have the highest percentage of participation. These programs are not continuous, but rather occur as culminating activities for physical education units.

The Physical Education Guide, Grades 1-6, August, 1969, encourages participation in intramural sports' programs so that a large number of students use the skills developed in physical education classes. The emphasis is placed on playing and participating rather than on winning. The same guide makes provisions for play days and sports' days. Play days are extra class activities involving students from one or more schools playing with, rather than against, each other. Sports' days are variations of play days that bring together one or more schools for the purpose of competing against one another. These two types of sporting events were not intended to encourage regularly scheduled interscholastic games between elementary schools. However, it has been reported that presently there are elementary schools conducting these events on a regular basis.

Interscholastic sports' rules and eligibility are determined by local and state athletic commissions. Secondary school athletic eligibility is based on the criteria of the current Maryland Public Secondary School Athletics' Association (MPSSAA). Additionally, eligibility is determined by specific standards in academic standing, school attendance and conduct. Interscholastic programs are conducted in each junior and senior high school. In the junior high schools, students in grades seven and eight are eligible to participate with the ninth graders on interscholastic teams. In the high schools, students in grade nine compete with players from grades ten through 12 for junior varsity and varsity teams. This results in fewer ninth graders participating in sports when the ninth grade is housed in a high school. Middle school students do not participate in interscholastic programs. Therefore, students in grades seven and eight of middle schools do not have the same opportunity to participate as students of grades seven and eight in junior high schools.

Presently, there exist nine varsity girls' sports and four junior varsity, ten varsity boys' sports and six junior varsity. Additionally, athletes participate coeducationally in golf, tennis, gymnastics and all track and field related sports. Girls' lacrosse and girls' junior varsity soccer teams have been proposed for the 1980-81 school year. Junior high school sports include five boys' sports and five girls' sports. The following chart indicates the variety of interscholastic sports available in county senior and junior high schools.

HIGH SCHOOL

SPORT	BOYS' VARSITY	BOYS' JV	GIRLS' VARSITY	GIRLS' JV	CO-ED
Football	X	X			
Soccer	X	X	X		
Field Hockey			X	X	
Cross Country	X		X		
Volleyball			X	X	
Golf					X
Wrestling	X	X			
Basketball	X	X	X	X	
In-Door Track	X		X		
Spring Track	X		X		
Tennis					X
Gymnastics	X		X		
Lacrosse	X	X			
Baseball	X	X			
Softball	—	—	X	X	—
TOTAL	10	6	9	4	2

JUNIOR HIGH SCHOOL

	BOYS	GIRLS
Soccer	X	
Gymnastics		X
Softball		X
Basketball	X	X
Track	X	X
Wrestling	X	
Volleyball	X	X
TOTAL	5	5

NOTE: All programs are not available in all schools due to a limited number of coaches and/or insufficient participation on the part of students.

The total number of students served by interscholastic athletic programs is increasing. The following chart indicates the number of participants during the 1979-80 school year.

		BOYS	GIRLS	TOTAL
1979-80	SENIOR HIGH	4,478	2,199	6,677
	JUNIOR HIGH	865	645	1,510
		5,343	2,844	8,187

Similar breakdown information was not available for the 1978-79 school year. However, combined figures are:

1978-79	JUNIOR/SENIOR	5,182	2,451	7,633
	INCREASE IN PARTICIPATION FROM 1978-79 TO 1979-80	161	393	554

Scheduling for in-county sporting events is done by the coordinator of physical education while events with out-of-county teams are scheduled by athletic directors in the individual schools. Schedules for certain in-county interscholastic events do not appear to change substantially from year to year.

Originally, students participating in after school athletic programs were not permitted to ride activity buses. However, present regulations allow athletes the use of activity buses if practice or game dismissal times coincide with established bus schedules. County funds provide transportation, officials, supplies and equipment, physical exams, physicians for football and awards for all interscholastic sports. Athletic directors in each junior and senior high school are responsible for organizing, administering and supervising the operation of the school athletic program.

Employment qualifications for coaching personnel include eligibility for the Standard Professional Certificate, participation or experience in high school, college or professional sports or a highly organized intramural program. Additionally, coaches must have training in the care and prevention of athletic injuries, standard first aid and cardiopulmonary resuscitation. This training must be completed within eighteen months of the start of the first coaching assignment. Training in these three areas is available through workshops offered by the school system and conducted on a regular basis. It is imperative that coaches have this training since athletic trainers are not employed by county schools.

A number of schools have not filled all coaching positions that have been budgeted by the Board of Education. Personnel with coaching capabilities have not been available in some cases to coach these sports. In other instances, personnel with the coaching qualifications have been unwilling or unable to assume these duties. Although it is desirable for coaches to hold teaching positions in the school where they coach, it is not a requirement for coaching in that school. Qualified teachers from all schools are eligible to fill an interscholastic coaching assignment with the written consent of the candidate's principal. If the candidate is from a high school other than the high school with the vacancy, special permission from the director of high schools must be granted. In a few cases retired teachers have been employed as coaches and in many instances community volunteers have assisted with coaching duties.

In the 1978-79 school year there were 295 interscholastic athletic coaches employed countywide. If every sport had a different coach and if all schools sponsored every sport, there would be a potential of 576 different coaches needed.

Measures have been adopted for the evaluation of coaching performances. Athletic directors are evaluated by the principal. Head coaches are evaluated by the principal and/or his designee with the assistance of the athletic director. Head coaches may assist in the evaluation of assistant and junior varsity coaches.

Pursuant to the charge of the Board of Education, the Athletic Program Study Committee undertook a detailed review of the public school athletic program during the summer of 1979. This report makes recommendations in the areas of:

- o salary increases
- o travel allowances
- o job descriptions
- o recruitment, hiring and staffing
- o maintenance

The Board approved the disposition of the Committee report in January, 1980. Formal action has been taken concerning recruitment, hiring, and staffing recommendations of the committee. Presently under consideration for the 1980-81 season are recommendations which require administrative review and action such as salary schedules, travel allowances and maintenance of athletic facilities.

MAJOR RESEARCH FINDINGS

A review of the research and literature produced the following findings:

Intramurals, Sports' Clubs and Recreation Activities

- * *There is support of the belief that the true American concept is to provide a larger portion of the student body with worthwhile sports and recreational opportunities than can be accommodated in interscholastic sports.*
- * *Extended day activities should be consistent with the content and philosophy of the physical education program of instruction.*
- * *Policies should be established to protect pupils from injury or over-participation.*
  - *Health examinations should be a prerequisite for participation in vigorous activity.*

- *Protective, well-fitting equipment for participants, good facilities and equipment, and capable personnel are essential to participants in intramurals and other extra-class activities.*

- *Boxing should not be included at any grade level.*

- *Contact sports below the ninth grade are not recommended.*

Interscholastic Athletic Program

* *A well-directed interscholastic athletic program should be made available to all boys and girls who are interested and sufficiently skilled. This area of physical education allows students to participate in competition characterized by varsity teams, leagues, conferences, regular season schedules, specialized coaching, and high quality of performance.*

* *Interscholastic athletic leagues or conferences should be confined to pupils in grades 9-12.*

* *The health and welfare of pupils should be the first consideration in planning an interscholastic athletic program. To protect and promote the health and welfare of competing athletes, the following conditions should be met.*

  - *Policies for the protection of athletes should be based on the best medical knowledge available.*

  - *Policies should include procedures to assure adequate medical examination plus ongoing medical supervision of all athletes.*

  - *Equitable competition between teams or individuals should be assured by the use of standardized classifications and eligibility requirements.*

* *The high school athletic program should provide full opportunities for girls to compete in interscholastic athletics in accordance with their needs, abilities and interests.*

* *Interschool games and contests should be administered and conducted so as to enhance wholesome social relationships among community members and students, rather than to foster conflicts or extreme behavior based on unreasonable rivalries.*

Personnel

* *Coaches should be certificated teachers, members of the school staff and well prepared for assuming their coaching responsibilities. Certification of coaches is highly recommended.*

* *Athletic directors should be competent administrators and educators with a rich background in interscholastic athletics. It is recommended that athletic directors acquire specific preparation for their position through formal courses or regular in- service work.*

* *Games and contests should be officiated by qualified personnel who are certified by the appropriate governing body or officials association.*

Injuries

* *Each year there are more than one million high school and college students injured in sports' activities. About one-third of all injuries and half the varsity sports' injuries occurred in football. About 750,000 of the reported injuries occurred in varsity sports and about 110,000 were considered serious.*

* *In 76.6% of the secondary schools, the coach or assistant coach is responsible for on-site health care when a player is injured. Athletic trainers with varying degrees of certification assume the responsibilities in 10.9% of the secondary schools.*

* *Making coaches responsible for athletic health care has limitations. It is difficult to supervise both sports' activity and health care which includes prevention and first-aid treatment. Additionally, most coaches feel inadequately trained for health care responsibilities.*

* *Sports' casualties may have reached unacceptably high levels. Many of the injuries might have been prevented if schools used safer equipment, if coaches and trainers were better trained in preventing and promptly treating injuries, and if participants had been taught safety rules as well as how to play the game.*

Participation

* *A 1975-76 survey conducted by Health, Education and Welfare (HEW) in a sampling of 2,500 public high schools indicated about 3.6 million high school boys and 1.5 million girls participated in varsity sports.*

* *Participation in high school athletics rose 13% from 1976 to 1978, reports the National Federation of State High School Administrations. Girls' sports increased 26%, compared to a 6% rise for boys.*

* *In 1979, interscholastic competition was provided in 36 different sports involving over five and one-half million boys and girls ages 15-18. Of the participants, nearly two million were girls. Overall participation increased 13.2% over 1976. Girls' participation rose 26.6% and boys' increased 6.3%.*

* *Nearly 29 million youth (ages roughly 6-21 years) participate in organized out-of-school sports' programs which are among the fastest growing segments of sports. The largest numbers of participants are found in age-group baseball, basketball, football, soccer and the club programs. In some other sports, such as gymnastics, are the major sources of young talent.*

* *Since Title IX, the federal law barring sex discrimination in education, was enacted seven years ago, the participation of high school girls in interscholastic sports has almost doubled, with girls now making up 33% of high school athletes compared with 18% in 1972.*

* *About 40% of all teens are presently engaged in sports, compared to 17% of all adults.*

* *Students who are above average in school work are from white-collar homes, have well-educated parents, are more active in sports.*

* *Maryland ranks 19th among the states in female high school interscholastic athletic sports' participation (34.21% in 1979).*

RECOMMENDATION

Every school should provide ample opportunity for participation in intramural and/or interscholastic recreational activities for all students. These programs not only supplement physical education instruction but also afford opportunities for social exchange, enrichment of individual skill development and wholesome competition. Intramural and interscholastic activities should be consistent with the content and philosophy of the physical education program. Such activities can be particularly helpful in promoting good human relationships and community involvement. Therefore, the Committee recommends:

* **OPPORTUNITIES FOR ALL STUDENTS TO PARTICIPATE IN INTRAMURAL AND/OR INTERSCHOLASTIC ACTIVITIES ON AN ORGANIZED BASIS.**

In implementing the above recommendation, the Committee proposes:

1. Establishment of a high school intramural sports' program that is not limited to those sports traditionally included in an interscholastic program.

2. Full implementation of an organized intramural program for all students in grades six, seven, and eight.

3. Establish guidelines for intramural sports at the elementary level.

4. Creation of an interscholastic sports' program exclusively for ninth graders regardless of the grade organization of the school.

5. Increasing the number of sports offered in the girls' interscholastic sports' programs.

6. Increasing emphasis on athletic health care in the interscholastic program.

7. Increasing requirements for certification of coaches.

8. Developing inservice training for intramural and interscholastic sports' personnel.

9. Offering approved interscholastic programs in schools where they do not exist.

10. Providing, in each school, sufficient coaching personnel to staff interscholastic sports' programs.

11. Providing activity buses to accommodate students involved in interscholastic and intramural related activities after the regular school day.

12. Establishment of equitable scheduling for all interscholastic sports' events.

The foregoing recommendation will require:

a. determining the components of a high school intramural sports' program.

b. determine the components needed to offer a ninth grade interscholastic sports' program, such as sports to be offered, personnel required, necessary facilities, scheduling, etc.

c. assuring that every senior high school has a staff member with expertise in athletic training.

d. including, as certification requirements for coaches, training in coaching skills such as: the psychology of coaching, theory and fundamentals of coaching a particular sport, theory and fundamentals of officiating, and instruction in athletic training.

e. greater emphasis on identification and recruitment of personnel including adjunct coaches available for coaching interscholastic teams.

OUTCOMES

With adoption of this recommendation, the following outcomes are projected:

- More students will participate in organized sports' programs.
- Students in grade 9, regardless of grade organization, will have equal opportunity to participate in interscholastic sports' programs.
- Famale students will have the opportunity to participate in a greater variety of interscholastic sports' programs.
- Students will have a greater awareness of athletic safety.
- Students will receive better athletic health care.
- Coaches will be better qualified.
- Students who participate in sports' programs will have greater access to bus transportation.

PROGRAM AREA: Reading
CONSIDERATION: READING IN THE CONTENT AREAS

PRESENT STATUS

Content reading programs are gaining impetus in instructional programs. The Superintendent of Schools, in his 1979 State of the Schools Report, recommended that beginning at grade 3, the reading program be organized with emphasis on reading in the content areas.

In June, 1978, the Board of Education approved the formation of the Reading Improvement Support Team. The team is composed of three reading teachers, each with experience in one of the three levels: elementary, middle/junior and secondary.

The major purpose of this team is to assist schools in developing and implementing comprehensive well-balanced reading instructional programs for all students. The team works directly with teachers in the schools helping them to develop materials, techniques, and strategies for dealing with the reading and language demands of a specific content. The team provides on-site training to teachers and administrators. The time spent in each school varies according to the objectives for the school as determined by the principal, a support team member and central office personnel. At the termination of the on-site assignment, the teachers and principal in the school complete a written evaluation of the services provided by the team.

As the team serves more schools, the opportunity for follow-up services decreases.

The Maryland State Department of Education Certification Standards require three credits in reading for all administrators, elementary classroom teachers and secondary social studies and English teachers. For certification as a reading teacher or reading specialist, the state requires 15 credit hours.

A countywide workshop in teaching content through reading is held for elementary as well as secondary teachers. A similar school-based workshop is held at the request of the principal. The coordinator of reading and the Reading Improvement Team conduct workshops for specific subject area teachers to enable them to focus on the language and reading demands of their students in that specific content area. For example, in the summer of 1979, the coordinator of reading conducted a workshop for vocational education teachers. Approximately one-third of the staff from the two centers participated. The participants developed a handbook which outlines specific strategies to meet the reading and language demands of the specific trades. A similar workshop was held for social studies teachers in the summer of 1980.

MAJOR RESEARCH FINDINGS

A review of the research and the literature produced the following findings:

* *Content reading instruction occurs when teachers teach their students how to read the subject matter.*

This assures the simultaneous learning of course content and the development of reading skills with neither being sacrificed to the other. This is considered an effective instructional approach because reading is not taught apart from the materials being read; reading skills and subject content are "kept whole" and students are shown how to use the language of the various subjects to understand the concepts which comprise these subjects.

* *When reading instruction is given in the content area, the need for remedial reading classes is drastically reduced.*

* *Reading growth occurs when time is allocated in a regular and systematic way and when direct instruction is provided.*

* *Remedial reading programs do not provide a solution to content area reading problems. Often these programs exist as isolated elements and the students in these programs have trouble transferring reading skills from one instructional area to another.*

* *For students to be successful in their subject matter courses and to master the skills of reading, they need reading instruction in their content classes.*

* *The growing trend in teaching reading skills is to incorporate the skills within the content area; no content area is devoid of reading skills.*

* *Content area reading programs are not confined to the secondary school curriculum. More elementary teachers are becoming aware that students don't automatically transfer the skills they learn in reading to other subjects.*

* *Inservice programs should be planned to help all teachers gain more expertise in helping students with the reading demands of their given curricula. The most efficient inservice model is one that uses personnel already employed by the school system to work directly with teachers in their classrooms.*

RECOMMENDATION

Nationwide, too many students are not achieving their potential in courses because they are unable to comprehend the printed material for these courses. This fact is true for

the high achiever as well as the low achiever. The growing trend in teaching reading skills is to incorporate the skills within the content area. No content area is devoid of reading skills; therefore, all teachers need to be aware of how to help students meet the language and reading demands of their content areas. However, most content teachers feel that they do not have the expertise to accomplish this end. Research indicates that the effective way to accomplish this is through inservice education that uses personnel already employed by the school system and who work with teachers in the classroom. The county school system took steps in this direction with the establisment of the Reading Improvement Support Team. Because of the number of schools to be covered, it is impossible for the three-member team to provide the necessary services. Therefore, the Committee recommends:

* EXPANSION OF CONTENT READING IN ALL SUBJECT AREAS (K-12) FOR ALL TYPES OF READERS.

In implementing the above recommendation, the Committee proposes:

1. Conducting school-based inservice programs, designed to enhance reading in the content areas, based upon assessed needs.

2. Increasing the direct assistance (providing follow-up services and increasing the number of schools receiving services) by the Reading Support Team to classroom teachers and school administrators.

The foregoing recommendation will require:

a. Assessment of inservice needs for each school.

b. Inservice activities for program coordinators so that they can provide staff development in reading in the content areas for their respective content teachers.

c. Increase in the number of personnel for the Reading Improvement Support Team.

OUTCOMES

With adoption of this recommendation, the following outcomes are projected:

- There will be more effective use of reading as a tool for learning.

- Students' reading skills will improve.

- Teachers will be more cognizant of the reading demands of their particular subject matter.

- Teaching strategies will improve.

PROGRAM AREA: Science
CONSIDERATION: SCIENTIFIC LITERACY

PRESENT STATUS

Scientific literacy is a term used to define an overall ability to translate knowledge of scientific facts and processes into practical applications and basic life understandings.

Presently the Anne Arundel County Public Schools are attempting to achieve scientific literacy within its student body in two ways: through the teaching of Unified Science beginning in kindergarten and continuing into the secondary school years (most students are exposed to Unified Science as a regular curriculum offering at least through the ninth grade), and through the teaching of 37 elective science courses at the secondary level which focus on specific bodies of knowledge (biology, botany, chemistry, physics and astronomy are examples). About one-third of the elective courses do not have written curriculum guides or do not have guides that appropriately reflect the county science program.

Through both the Unified Science Approach and these individual courses, students are presented with three basic learning elements: 1) a body of scientific fact; 2) an understanding of, and ability to use, the tools with which those facts may be discovered (scientific fact may be ascertained through observation, inquiry, inference, prediction, measurement, experimentation and data interpretation, to name a few of these tools); and 3) a sense of what those discoveries can mean in everyday life (scientific literacy).

The Unified Science Approach includes 21 basic units through which the above three learning elements are taught. This information was designed to be given to students in a pre-arranged sequence irrespective of their grade levels. That is, the Unified Science Approach was designed as a continuous progress program.

The practice at the elementary level, however, has been to designate certain units to be taught at specific grade levels. Generally, two units are taught each year except kindergarten and grade three, when one unit is taught. By designating specific units for exposure at specific grade levels, the continuous progress concept on which Unified Science is based is usually not implemented.

If, for instance, unit 8 is not completed by the end of grade four, students move to grade five the following fall and immediately pick up with unit 9, literally skipping over whatever components of unit 8 they may have missed toward the close of the previous school year. This "skipping over" of instructional material had become so much a part of the program's implementation that the science department, working with school directors, some time ago identified what it called "priority material" within each of the units which it felt simply had to be covered if the entire unit could not be. Some of the material in each of the units was certain to be covered again later in the curriculum, this group reasoned, while other more basic material would not be touched upon again.

The bottom line situation then, at the elementary level, is that certain material, but not necessarily all material in the first 12 units, is taught to all children. Students, therefore, enter middle/junior high school with varying gaps in their scientific literacy -- gaps which are expected to be closed when, in higher grades, certain science material is covered again in a different context.

However, a problem exists because not only must the gaps be filled, but the nine remaining units must be completed.

Compounding this problem, students are allowed to discontinue Unified Science at the end of the 9th grade and move into other elective science courses in high school. The problem here is that these elective courses - biology, botany, astronomy and a list of 34 others - do not require successful completion of the 21 basic learning units in Unified Science as an enrollment prerequisite. Thus, these gaps are carried forward for students electing out of Unified Science at the end of grade nine.

Further, students may leave Unified Science to enter biology even earlier - specifically, at the end of grade eight, if they are identified as scientifically-oriented students as determined by certain criteria. These criteria, however, do not include having successfully completed each of the 21 learning units of Unified Science. To be declared "scientifically oriented", students must have met the qualifications to take Algebra I, have a score no lower than the 50th percentile on the reading comprehension portion of the Iowa Test of Basic Skills in grade seven and have an unusual science achievement record in addition to a teacher recommendation.

Students who terminate the Unified Science Approach after grade eight or grade nine do not receive many objectives relating to scientific literacy even if they continue with biology, chemistry and physics. Those students discontinuing Unified Science after grade nine will miss units relating to the effect of technology on health, population, resources, pollution, rate of change and occupational trends. Those leaving Unified Science a year earlier will miss, in addition to the above, the units relating to magnetism, electricity, motion, gravity, space exploration, and underwater environments (including the Chesapeake Bay).

Students who do not want to leave Unified Science after grade nine, but who wish to continue in grade 10, cannot do so in four of the county's 12 senior high schools. The course is not offered in these four schools.

Earlier in this paper it was stated that Unified Science, as well as the 37 elective courses, present students with three basic learning elements: fact, tools or methods, and an understanding of what scientific fact and processes can mean in everyday living (scientific literacy).

With regard to the second of those learning elements -- the tools or processes with which scientific facts may be discovered -- it is noted that individual process skills have been identified for use at certain levels in the elementary grades. To help teachers develop students' processes of observation, inquiry, or measurement, for example, specific activities have been designed. This has not, thus far, been accomplished at the secondary level.

Staffing of the science program varies from grade level to grade level at the elementary level with some teachers instructing students in science only; some teachers offering instruction in science and one or two other subject areas; and other teachers teaching all subjects throughout the day to the same group of pupils. Staffing patterns depend upon in-school instructional organization.

In the 1979-80 school year, there were 245 secondary science teaching positions. These teachers typically handle five class periods in science per day.

With regard to staff development, 21 workshop opportunities covering 12 topics have been offered to science teachers by the school system since 1974, with 19 of the 21 sessions actually presented. (The remaining two were cancelled due to lack of sufficient enrollment.) These workshops covered topics such as Marine Science Education, Curriculum Development and Instructional Strategies for Unified Science 10, and Aerospace Education.

The Unified Science Approach was adopted in 1971 following a one-year study by a Science Task Force. The entire science program, including this approach, has not been formally evaluated.

MAJOR RESEARCH FINDINGS

A review of the research and literature produced the following findings. Research from three separate National Assessments of Educational Progress undertaken by the Education Commission of the States in 1969-70, 1972-73 and 1976-77 indicated:

* *Attitudes of 13 and 17-year olds toward science were, in many cases, very much alike. Similar percentages at these ages expressed favorable attitudes toward science classes, were interested in pursuing science- related careers, used the scientific method of inquiry and were personally involved in solving science- related societal problems. More 17-year olds than 13-year olds supported research activities by scientists and were aware of the philosophy and methods of science; as would be expected, 17-year olds had had more science-related experiences than 13-year olds.*

* *About half the 13 and 17-year olds expressed favorable attitudes toward science classes and science related careers.*

* *More nine-year olds expressed favorable attitudes toward science classes than 13-year olds or 17-year olds. They also appeared more willing than the older groups to try to help solve societal problems.*

* *Willingness to participate in solving science-related societal problems was higher than actual participation for nine, 13, and 17-year olds (e.g., 85% of nine-year-olds said that energy waste is serious, yet only 52% were willing to ride in a small economy car.)*

* *Groups that typically performed below the national level on cognitive science items were also below the national level in science-related experiences. The*

gap in experience levels appears to increase with age - groups of 17-year olds who were below the national level for their age group were generally farther below it than their 13-year old counterparts.

* *Thirteen-year olds, 17-year olds and young adults were fairly supportive of research activities being conducted by scientists. On the average, 72% of the 13-year olds, 78% of the 17-year olds and 82% of the adults approved of spending money for various research endeavors. Levels of support were higher for applied than for basic research.*

In addition, general research gathered from a variety of other sources produced the following findings:

* *The objectives for science education have remained relatively stable over the past 20 years but now appear to be in transition. The objectives are reflecting increased emphasis on environmental concepts, societal concerns, world problems, decision- making, and interdisciplinary studies.*

* *Attitudes toward science must be considered because attitudes can lead to rational and productive behavior only if they are based on a real understanding of the problems at hand.*

* *Student attitudes toward science are directly related to attitudes held by the students' parents and the science instruction the students are receiving.*

* *Specific issues of concern are critical to a citizen's scientific literacy. The list below, in particular, constitutes a range of topics which research shows should be covered as a minimum if literacy is to be achieved:*

Technology

1. *Influence on other issues*
2. *Difference between science and technology*
3. *Laser*
4. *Holography*
5. *Computer*
6. *Arms race*
7. *Communications*
8. *Career awareness*

Environment

1. *Resource depletion and its prevention*
2. *Contaminants*
   a. *Radioactive debris*

b. *Insecticides, fertilizers, growth chemicals*
c. *Food additives*
d. *Asbestos*
e. *Methyl mercury*
f. *PCB*

3. *Air pollution*
   a. *Common pollutants*
   b. *Damage to ozone layer*
   c. *Dust in atmosphere may cause new ice age*
4. *Water pollution*
5. *Land pollution*
6. *Noise pollution*
7. *Thermal pollution*
   a. *Nuclear reactor heat*
   b. *Greenhouse effects from increased carbon dioxide in atmosphere*
8. *Bacteriological and chemical warfare*

Energy

1. *Nuclear, solar, fossil fuels, solid wastes*
2. *Conservation*

Food

1. *Production*
   a. *Protein from fossil fuels*
   b. *Synthetic food from air and water*
   c. *Extracting minerals from rocks*
   d. *Green Revolution*
2. *Distribution (transportation)*

Health

1. *Nutrition, malnutrition*
2. *Extended longevity*
3. *Disease - preventions, cures*
4. *Biological and chemical progress*
5. *Molecular biology and genetics*
6. *Brain functions*
7. *Mechanical dependency - pacemakers, artificial kidneys, etc.*
8. *Health care*

Population

1. *Effect on food, natural resources, living space, etc.*
2. *Control*

RECOMMENDATION

Although steps for the implementation of science were outlined in 1971, many have not been followed -- at least to the degree intended. Modifications have caused a disruption in the implementation of continuous progress of the Unified Science Approach. At the secondary level, these modifications have allowed for termination of the program just prior to the study of content material crucial to a student's scientific literacy. In addition, elective courses are not able to fill in the knowledge gaps of students with the topical information identified in research as important for a student's scientific literacy. Therefore, the Committee recommends:

* ENSURING THAT THE SCIENCE PROGRAM REFLECTS THE CONTENT, PROCESSES, SKILLS AND APPLICATIONS NEEDED BY ALL STUDENTS IN ORDER TO BECOME SCIENTIFICALLY LITERATE.

In implementing the above recommendation, the Committee proposes:

1. Review and modify, as needed, guidelines for implementation of the scope and sequence plan for Unified Science.
2. Development of curriculum guides for all senior high school science courses now offered in the county which do not have guides.
3. Revision of curriculum guides for senior high school elective courses to better reflect student needs and interests.
4. Review and updating of content in Unified Science and all elective science courses to include topics identified in research as important for scientific literacy.
5. Revision of competency prerequisites for all students who wish to take elective science courses.
6. Establishment of criteria regarding the early identification of scientifically oriented students, including the ability to meet minimum competency prerequisites for elective courses.
7. The identification of specific process skill learning activities at the secondary level such as those now utilized in connection with the elementary curriculum.
8. Implementation of staff development programs to prepare teachers to better teach objectives relating to scientific literacy.

9. Evaluate the effectiveness of the K-12 science program.

The foregoing recommendation will require:

a. mechanisms for ongoing evaluation and revision of the science program to consider continuing appropriateness of content, updating of content where needed, extent of content coverage, and progress in student achievement of scientific literacy.

b. a system for dissemination of information about sources of content, lab activities, materials and resources.

c. specific staff development activities dealing with philosophy of programs and scientific literacy, teacher management of material, student career awareness, integrated discipline teaching techniques, application of facts, processes and skills to life situations and other important areas.

d. sufficient time and personnel to review and modify curriculum.

OUTCOMES

With adoption of this recommendation, the following outcomes are projected:

- Students will acquire greater knowledge and process skills which can be used to explain, predict, and understand natural phenomena.

- Students will apply process skills, knowledge, and attitudes more effectively in daily experiences.

- More students will recognize the interrelationships between science and other disciplines as well as among the sciences.

- Students will acquire a greater variety of interests in and enthusiasm for science that may lead to vocational and/or avocational interests.

- Major gaps in science content will be eliminated.

- Students will be more appropriately placed in science programs.

1. Students proceeding into higher level elective courses will demonstrate an understanding of basic science facts, processes and life skills.

2. More students will be identified earlier as being scientifically oriented.

PROGRAM AREA: Social Studies
CONSIDERATION: CITIZENSHIP/GOVERNMENT

PRESENT STATUS

The statement of goals for the Social Studies Program in Anne Arundel County's public schools includes specific learning objectives in the areas of citizenship and government which parallel those listed in the literature and research. The majority of those learning objectives are included in the social studies course titled American Government, which is a county requirement for graduation. In the fall of 1980, a new curriculum guide will be issued to teach this course, which is offered in all senior high schools. American Government deals specifically with basic concepts of citizenship and government, but it is by no means the only social studies course where these topics are examined. Concentration in citizenship and government skills can also be found in the following high school courses: Law and the Individual; Inquiry into Community Problems; Constitutional History and Law; Crisis of the Environment; Social Issues of the 20th Century and History of the United States. Unlike American Government, however, these courses are not required for graduation.

At the elementary level, information on structures and functions of government, as well as units dealing with citizenship responsibility and rights of all individuals are presented throughout the social studies curriculum. In the grade eight social studies curriculum, broad topics of citizenship and government, including human rights, basic freedoms, equal rights before the law and economic opportunity, are covered.

Techniques of citizen decision-making appear as topics of discussion throughout the overall social studies curriculum.

There is presently, however, little detailed coverage provided by the social studies curriculum of state and local governments, their operations, functions, or relationships with other agencies. Additionally, there appear to be no textbook or media resources touching upon this subject other than a brief promotional handbook prepared for the county government several years ago, and a single video tape presentation, both of which cover in a general way the accomplishments and functions of the various departments of the present county administration.

MAJOR RESEARCH FINDINGS

Major research found to examining the area of social studies in the public schools is contained in two studies undertaken by the National Assessment of Education Progress (NAEP), which completed assessments of citizenship in 1969 and 1976. In both studies, six objectives were measured: concern for the well-being and dignity of others; support of just law and the rights of all individuals; knowledge of the main structure and function of government; participation in democratic civic improvement; understanding of important world, national and local civic problems; and approaching civic decisions rationally.

A review of the 1976 study produced the following findings:

* *An average of 70-80% of the nation's 9, 13, and 17-year olds showed concern for the well-being and dignity of others. For example: 86% of those tested believed that men and women should receive the same pay for doing the same work.*

* *17-year olds' support for the right to participate in various activities appeared to have a direct link with the activity involved. For example: 69% supported the right to protest our country's involvement in a war; 47% felt one should be allowed to write a letter to a newspaper advocating denial of blacks' right to vote; 32% felt that campaigning for American Nazi Party candidates on television should be permitted.*

* *Knowledge of structure and functions of government produced the following results: 95% of the 17-year olds were aware that 18 is the earliest age at which one can vote in national elections; 62% of the 9-year olds and 68% of the 13-year olds knew that federal, state and local governments each can make laws; nearly 70% of the 17-year olds knew that the legislative branch is responsible for passing laws.*

* *Regarding participation in civic decisions, 91% of the 13-year olds and 96% of the 17-year olds knew that unjust laws can be changed. Two-thirds of the students indicated some amount of personal civic involvement.*

* *Social studies courses increased student interest in government, public affairs and politics for 79% of the assessed 17-year olds. Although over 97% of teenagers have televisions in their homes, only 26% at age 13, and 34% at age 17, reported they had watched a news program the previous day. Percentages listening to radio news reports and reading news in newspapers were similar.*

A comparison of the 1976 study with the study undertaken in 1969 produced the following additional findings:

* *Between the first and second assessments, comparison of achievement indicated that teenagers continued to respect the rights of others guaranteed by the U.S. Constitution. However, overall performance declined for both the 13-and 17-year old groups. Little change was recorded in achievement among the 9-year olds.*

* *There was a substantial increase in the percentage of 17-year olds willing to have a person of another race participate with them in typical daily life activities.*

* *The ability to explain basic concepts of democracy declined twelve percentage points (from 86% to 74%) for 17-year olds and 11 percentage points (from 53% to 42%) for 13-year olds.*

* *Substantial improvement was recorded by both groups in the ability to state ways to avoid future wars. Thirteen-year olds increased 21 percentage points (from 63% in 1970, to 84% in 1976), while 17-year olds' performance improved eight percentage points (from 79% in 1969, to 87% in 1976). This increase has been interpreted as a reflection of the impact of the Vietnam War on national consciousness.*

* *While the percentage of 13-year olds who felt that the press should be allowed to publish criticism of elected officials increased from 49% to 54%, 17-year olds supporting this freedom dropped from 75% in the first assessment to 67% in the second.*

* *The number of 17-year olds willing to report vandalism dropped slightly, from 74% in 1972, to 67% in 1976. There is no change in the number of 13-year olds (86%) and 17-year olds (90%) who believed that a person accused of a crime should not be punished immediately by those who accuse him.*

RECOMMENDATION

Social studies courses increase interest and awareness in government, public affairs and politics for a majority of students. The teaching of citizenship and government has been emphasized as it relates to federal government but not as it relates to state and local government. Therefore, the Committee recommends:

* GREATER EMPHASIS ON CITIZENSHIP AND GOVERNMENT AT THE STATE AND LOCAL LEVELS IN THE SOCIAL STUDIES CURRICULUM.

In implementing the above recommendation, the Commitee proposes:

1. Modification and refinement of existing curriculum to assure that state and local governments receive proper emphasis, particularly in the teaching of American Government.

2. Acquisition of additional materials of instruction dealing with state, county and city governments in

general, and with Maryland, Anne Arundel County, and local community governments in particular.

3. Establishment and implementation of an inservice program to reflect curricular changes.

The foregoing recommendation will require:

a. sufficient time and personnel for curriculum development.

OUTCOMES

With adoption of this recommendation, the following outcomes are projected:

- Students will better understand the nature, purpose, function, and relationships of state, county and city governments

- Students will have the knowledge to approach civic issues in a manner which allows them to make informed decisions.

- Students will demonstrate an increased interest and participation in democratic civic improvement in general, and at the local and state level in particular.

PROGRAM AREA: Social Studies
CONSIDERATION: CURRICULUM

PRESENT STATUS

The K-12 Social Studies Program in Anne Arundel County has been designed within a framework of major conceptual statements which are being translated into specific content, objectives and suggested activities for each grade level and course.

Social Studies is allotted 24 minutes a day, or 120 minutes weekly, in the primary grades, while 39 minutes daily, or 195 weekly, are devoted to these studies in the intermediate grades. The middle/junior high schools' social studies classes meet daily for approximately 45 minutes. In high school, a minimum of three credits in social studies is required for graduation under Maryland State Department of Education guidelines.

The K-6 curriculum begins K-6 with concepts of self, spiraling upward to later incorporate global concepts of world civilizations. Resource units are provided to assist teacher planning. The curricular modifications which define objectives and minimum content at each grade level were undertaken for the elementary level in the summer of 1980.

In the middle/junior high schools, the curriculum provides units of study on Ancient Civilizations, Ancient Greek and Roman Civilizations, and the History and Geography of Latin America and Canada in grade six, World History in grade seven, and United States History in grade eight.

Of the three social studies credits required for graduation, the State Department of Education requires one credit in American History and one-half credit in any course relating to contemporary issues. In addition, Anne Arundel County requires one-half credit in American Government. The remaining required credit may be chosen from 31 elective courses. All of these courses are one-semester in length and grant one-half credit. However, the two Advanced Placement social studies courses are designed for a full year of study.

Curricular modifications in social studies undertaken since 1979, have been directed toward providing course guides at the senior high school level for each course. These guides provide specific objectives, minimum content, suggested activities and resources for the instructor. Guides presently available include those for six of the 31 elective courses.

From an examination of the course description guide, there appears to be some duplication of content between certain social studies courses and those in other instructional programs. For example, the content of Consumer Economics (Social Studies) corresponds closely to Management (Home Economics); Psychology of the Individual (Social Studies) corresponds closely with Human Development-I (Home Economics); Introduction to Sociology (Social Studies) corresponds closely with Human Development-II (Home Economics).

In addition, there seem to be instances where courses within the Social Studies curriculum itself are also somewhat duplicative, and where combining these courses might produce a more educationally effective study unit. One such example is the content of General Psychology and Psychology of the Individual.

The county has adopted a multi-text approach to the teaching of social studies. Each secondary school has various sets of approved texts which are used to meet curriculum objectives. Additionally, many other teaching aids are used, such as filmstrips, films, maps, globes, charts and newspapers. There appears to be an effort to maintain currency of materials in order to ensure the program's relevancy.

Staffing at the elementary level varies according to the staffing patterns adopted by the school as a whole. In some instances, where a departmentalized approach is utilized, certain teachers do not teach social studies. There are 267.1 teaching positions at the secondary level.

Thirteen state-approved workshops have been offered for social studies teachers both at the elementary and the secondary level.

MAJOR RESEARCH FINDINGS

A review of the research and the literature produced the following findings:

* *Social studies curriculum has remained relatively stable over the past 20 years.*

* *National achievement testing programs indicate that students' knowledge of basic information in the social disciplines, particularly history, is declining.*

* *Student reading abilities are very closely related to achievement in social studies.*

* *The limited amount of research which has been done on the effect of curriculum materials has not been effectively translated into classroom practice.*

* *Teachers concerned with their own needs choose materials and resources that satisfy these needs and seldom use methods that increase the complexity of teaching, such as inquiry - critical thinking methods.*

* *Textbooks remain the predominant determinant of curricula. Research shows that approximately 80% of all curricular decisions are made on the basis of a text. Most texts have been designed to reflect state guidelines.*

* *There is high agreement among social studies teachers that academic freedom and the difficulties of dealing with controversial issues in the classroom pose a significantly strong problem for social studies teachers.*

* *During the 1960's, social scientists strongly influenced the infusion of social science content and methods into the curriculum. However, many different perceptions of the "new social studies" have limited the general adoption of the scientifically oriented social science disciplines.*

* *The academic preparation social studies teachers currently receive has not improved during the past 20 years. Most teachers teach in the ways they were taught.*

* *Lecture methods may be considered as effective as discussion for information acquisition, but discussion is superior for increasing student abilities in evaluation, synthesis, inference making, perception of relationships and application of material learned. Attitudes are more readily changed through discussion techniques.*

* *New approaches to preservice and inservice education are needed to meet the needs of current instruction.*

* *Most elementary teachers are responsible for instruction in all academic areas. Research indicates elementary teachers' perception of their qualifications to teach social studies as 39% very well qualified; 54% adequately qualified; 6% not well qualified; 1% unknown. The perceptions appear to be consistent with the amount of time usually spent in instruction in social studies.*

* *Nationally, elementary teachers indicate the average number of minutes spent teaching social studies are: 21 minutes (K-3); 34 minutes (4-6).*

* *The expanding-environment is the primary organizing theme for elementary schools nationwide.*

* *Between 1961 and 1973, student enrollments decreased 39% in civics programs and 22% in problems of democracy courses.*

* *Law and citizenship education programs are increasing nationwide and this trend is expected to continue. Course enrollments in economics, psychology and sociology have had dramatic increases since 1961.*

* *Examination of curricula across the country indicates that social studies is generally the study of history and geography, aside from a variety of social science courses that are grade 12 electives.*

* *Increases in knowledge do not necessarily lead to growth in democratic attitudes and values. Classroom climate may be a variable of major importance in attitude change.*

RECOMMENDATION

Nationally, the scope and sequence of the social studies curriculum has remained basically stable in general outline over the past 20 years. The only exceptions are noted with the infusion of concepts and methodologies from the scientifically oriented social science disciplines (i.e., anthropology, sociology, psychology). Curricular offerings in the Anne Arundel County social studies program reflect both the traditional social studies courses and the newer social science courses. Therefore, the Committee recommends:

* RETENTION OF THE PRESENT CONCEPTUAL FRAMEWORK OF SOCIAL STUDIES, WITH FURTHER DEVELOPMENT, MODIFICATION AND REFINEMENT OF THE PROGRAM.

In implementing the above recommendation, the Committee proposes:

1. Completion of all curriculum guides for the social studies program, K-12.
2. Reviewing and updating program offerings to reflect changing needs of students and society.
3. Full implementation of the elementary programs.
4. Emphasizing reading instruction through the social studies content.
5. Elimination of duplication of content between social studies and home economics courses.
6. Combining social studies courses where applicable.
7. Expansion of the current social studies staff development component.

The foregoing recommendation will require:

a. Sufficient time and personnel to determine curriculum for course guides.

b. Assuring that social studies be taught daily at the elementary level for the recommended times.

c. Offering inservice to acquaint social studies teachers with techniques of teaching reading in the content area and with curriculum changes.

OUTCOMES

With adoption of this recommendation, the following outcomes are projected:

- Students will have a better understanding of human behaviors and development.

- Students will have a greater understanding of local, state, national and world contemporary issues as they relate to daily living.

PROGRAM AREA: Vocational Education
CONSIDERATION: Business Education

PRESENT STATUS

The business education program is the component of the vocational education program which provides students with the knowledge and skills needed for beginning employment in a business career. In addition, selected business courses are of benefit to those students who are pursuing post secondary education or are entering other occupations. Any student may currently fulfill one of the two math credits required for graduation by taking Business Mathematics.

Students select one of three broad areas to study: clerical/secretarial, accounting/ bookkeeping or data processing. Ninth grade students who attend a 9-12 high school may begin a business program by taking Introduction to Business. This one semester half-credit course is recommended for all business students. In addition, there is a special twelve-week program designed to give 9th grade students at Bates, Annapolis, Marley and Corkran Junior High Schools the opportunity to explore careers in a variety of occupational areas in the fields of business, merchandising, and distribution.

Sequences of courses in each area have been planned for grades 10-12 with cooperative work experience available in the 12th grade. Students may begin business programs as late as 11th grade but in most cases will not be eligible for cooperative work experience in grade 12.

Table 1 shows the courses for the different vocational business programs and the sequence in which they are recommended to be taken.

TABLE 1
Recommended Sequence of Courses
for Business Programs

Secretarial	Clerical	Accounting	Data Processing
Typing I	Typing I	Typing I	Typing I
Business Mathematics	Business Mathematics	Business Mathematics	Business Mathematics
Typing II	Typing II	Intro. to Data Processing	Intro. to Data Processing
Shorthand/ Transcription I	Recordkeeping	Accounting Principles I	Automated Accounting Systems
Accounting Principles I	Typing III	Typing II	Business Data Processing I
Shorthand II/ Transcription II	Office Training	Accounting Principles II	Business Data Processing II
Office Training			or Advanced Data Processing (at North Arundel Vo-Tech Center)

Business courses are offered at all comprehensive high schools; specialized data processing courses are available at the North Arundel Vocational-Technical Center. Although business courses are open to all students, certain courses have prerequisites.

Minimal job-entry level competencies have been identified for each area of the business program. Records of typing and shorthand skills may be kept by individual teachers. However, there is no countywide system for maintaining such records and supplying the information to employers on request. Business teachers do, nonetheless, fill out certificates of proficiency in skill areas for students who pursue civil service jobs. Civil service personnel give aptitude and skill tests at all high schools each spring.

The two cooperative work experience programs available for 12th grade business students are Cooperative Office Education (COE) and Data Processing (DP). There is no cooperative work experience program in accounting. Students enrolled in these programs attend their home schools in the mornings and work in the afternoons for at least 15 hours per week. Three credits are awarded for a year of successful cooperative work experience. The student is paid at least the minimum wage. Concurrent enrollment in a two semester, one credit, related course is required of all business work experience students. Students are required to pass their related course in order to earn credit for cooperative work experience. This course is taught by the work experience teacher coordinator who is also responsible for locating students' work sites and supervising their work experience. In most cases students are placed in jobs related to their area of study; there are cases, however, when this does not occur. Students who do not participate in cooperative work experience may take, at their home high schools, two periods of Office Training which provides simulated office experiences.

Data processing students who do not participate in cooperative work experience may take the three credit advanced data processing course offered at the mini-service bureau located at North Arundel Vocational-Technical Center. This bureau has the responsibility for reporting vocational statistics for all public schools in Maryland. It is operated as a joint venture by the Maryland State Department of Education (MSDE) and the county school system: the computer is owned by MSDE; the manager of the bureau is employed by MSDE; the data processing teacher is employed by the county. Approximately 20 advanced students work three hours each afternoon assuming the duties of computer and data entry operators and further developing their programming skills and system designs.

In addition, the Data Processing equipment at North Arundel Vocational Technical Center is used for three hours each morning for a course in Introduction to Data Processing. This one semester, two-credit course is planned for high ability students who are not enrolled in a business program. Although this program can accommodate 20 students, that quota is seldom met.

One of the goals of the business program is to provide students with equipment, which parallels that used in the business world, on which to learn. South River, Annapolis, Old Mill, Meade and Chesapeake High Schools have adequate modern equipment which is comparable to that used in businesses. The remaining seven high schools need additional electric typewriters, update steno lab equipment, additional calculators, and updated reprographics equipment.

Modern data processing equipment is located in all 12 high schools. Each business department is equipped with four cathode-ray tube (CRT) terminals, one character printer, four acoustic couplers, and one data recorder. This equipment is interfaced with the computer at North Arundel Vocational-Technical Center.

Word processing equipment is located at Meade and Annapolis High Schools for use in the office training courses. Students who attend one of the 10 schools without word processing equipment are taught the concepts and terminology used in word processing through simulations. Machine shorthand equipment, which is used by court reporters, is located at South River and Meade High Schools and will be introduced for use in second semester office training courses beginning in January, 1981. Machine shorthand cannot be learned through simulation techniques; the actual equipment must be used. A three credit county workshop for training teachers in the use of this equipment was given for 15 teachers in the spring of 1980.

Students enrolled in the reprographics course produce materials such as school programs and newsletters for the school and also do work for outside groups, charging only for supplies and ink. This course, which has Typing I as a prerequisite, is open to all 11th and 12th grade students. In addition, at Meade High School word processing equipment is used in conjunction with reprographic equipment to prepare materials such as form letters.

Business courses were offered for the first time in summer school, 1980, as part of a federal project for those who are out of school and out of work and those who are working but need further training for advancement. Typing and data processing were available at South River High School and two typing classes were held at Severna Park High School. Business courses in typing, shorthand, accounting, and introduction to business and data processing are offered through the evening high school program.

Curriculum guides have been written for all business education courses and will be available for teacher use in September, 1980. The guide for office training will be revised in the fall, 1980.

Staff development is accomplished through county workshops, and one countywide inservice day. Since 1975, 12 county workshops have been offered for credit in the areas of equipment maintenance, individualized learning systems, calculators, business education skills, data processing storage techniques, basic programming and machine shorthand. Many of these workshops are offered after school hours for one week and earn one credit. No county workshops offered in business education have been cancelled due to lack of teacher participation. Approximately five business education seminars are made available annually to all business teachers on a voluntary basis. These one day seminars, often held on Saturdays, are given by outside consultants at no cost to the county.

MAJOR RESEARCH FINDINGS

A review of the research and literature produced the following findings:

* *Business jobs of all kinds and at all levels require responsible, flexible personnel who have acquired skills in communication, computation, and keyboarding.*

* *Office jobs of the future will require inceasing involvement with equipment.*

* *Word processing machines will eventually lead to the creation of the "paperless office" thus changing the role of the secretary.*

* *It seems unlikely that many secondary school business programs will be able to afford the costs of acquiring sophisticated and rapidly changing equipment for in-school training programs.*

* *Business will have to accept responsibility for training workers for the specialized functions they will perform. The schools will be expected to provide basic skills which have always been important - keyboarding, English, grammar, spelling, and proofreading.*

* *Typewriting should be required of all business students because keyboarding knowledge is needed for operating the computer and communication terminals that will be an integral part of the office of the future.*

* *Minimum outcomes of each vocational business program should be established in order to show a prospective employer a list of things the student will be able to do upon completing a program in business education.*

* *Teachers of business education can update and extend their skills of the business world by periodically working in the fields in which they teach. This will enable them to give students a more realistic relationship between classroom instruction and job performance.*

* *Many of the skills acquired in business courses are important for college students and those employed in fields other than business.*

RECOMMENDATION

Research indicates that the skills needed by office personnel of the future will be influenced by the increased use of newly developed and continually changing office machines. Not only is it imperative that business education curriculum remain current, but business education teachers must also be aware of changing office practices. Therefore, the Committee recommends:

* CONTINUED REFINEMENT OF THE BUSINESS PROGRAM TO PREPARE BUSINESS STUDENTS FOR CHANGING OCCUPATIONAL REQUIREMENTS FOR JOB ENTRY SKILLS AS WELL AS TO PREPARE OTHER STUDENTS TO PARTICIPATE IN THE BUSINESS WORLD.

In implementing the above recommendation, the Committee proposes:

1. Providing equipment to keep pace with modern technology and provide realistic training.

2. Equalization of business education programs countywide.

3. Consideration of a business skill center to house highly specialized equipment to be used by selected students on an individualized basis.

4. Updating the curriculum to include new programs that parallel evolving trends in business.

5. Refining existing curriculum to reflect critical skills needed in the job market.

6. Developing a business skill card which lists competencies that have been attained by each student.

7. Providing staff development to update the knowledge and skills of business teachers as related to and coordinated with curriculum change.

8. Planning field experience programs for teachers that would enable them to participate in the business world to remain aware of changing technology and job requirements.

The foregoing recommendation will require:

a. purchasing updated equipment for seven high schools in order that all business programs will be available for all high school students.

b. developing new programs to prepare students for employment as medical, legal, or executive secretaries.

c. incorporating skill development in the curriculum to achieve greater proficiency in:

- keyboarding

- machine transcription

- writing mechanics (spelling, punctuation, and grammar)

- computer literacy

OUTCOMES

With adoption of this recommendation, the following outcomes are projected:

- A greater number of students will become skilled at using modern business equipment.

- Students will have greater opportunities for employment as medical, legal or executive secretaries.

- Students will demonstrate greater proficiency in keyboarding, machine transcription, writing mechanics and computer literacy.

- Teachers will update their knowledge and skills of contemporary business practices.

PROGRAM AREA: VOCATIONAL EDUCATION
CONSIDERATION: Cooperative Work Experience Program

PRESENT STATUS

Cooperative work experience is a planned school-work program for 12th grade students through which students can apply what they have learned in vocational activities at a job site, under the supervision of a teacher-coordinator. Although all students who have successfully completed the vocational program are encouraged to participate in cooperative work experience, not all students elect to do so. The following guidelines have been established for work experience programs:

- o A student must have successfully completed a minimum of one year of a sequentially planned vocational program. (An exception is the cooperative occupations program discussed later in this section.) Students must be recommended by the principal and teacher-coordinator of the work experience program.

- o A student must be placed for employment in a position related to the area of school preparation, and the work-site must be approved by the teacher-coordinator.

- o Students are responsible for their own transportation to and from their place of employment.

- o Students are paid at least the minimum wage.

All programs award three credits for a year of successful cooperative work experience. However, in order to earn any credits, students must remain in the program for the entire school year. The student who terminates his school program before graduation is supposed to terminate employment at his training station. Students must work a minimum of 15 hours per week average during the school year, but are not permitted to work on any day they are absent from school. Students must notify their teacher-coordinator and their employer by 10:00 a.m., if unable to attend school and work that day. Job availability requires that some students work evenings or weekends.

A grade of S (satisfactory) or U (unsatisfactory) is given for the work experience as determined by the employer's evaluation of the student's job performance. The teacher-coordinator receives from the employer at least one written evaluation per student each marking period. In order to receive credit for work experience, a student must earn a grade of S for a minimum of three of the four grading periods. In order to receive credit for work experience, all cooperative work experience students, except those in trades and industry and health occupations, are required to pass a one-credit related course which is taught by the work experience teacher-coordinator and given concurrently at the home high school.

There are six different cooperative work experience programs available for high school students. The Health Occupations Program (HOP), an exploratory program of health careers, is open to 11th grade students. Three hours of daily instruction are given at one of five local hospitals. Transportation is furnished. Twelve weeks of the first semester are devoted to classroom instruction; the remaining six weeks are spent observing in various departments of the hospital. During the second semester students select an area of concentration and spend four days a week for the entire semester gaining hands-on experience in this area. The fifth day is spent in classroom instruction. Three credits are awarded for completion of this two-semester course. In the 12th grade, HOP students

attend their home high schools in the morning and work in a health-related field in the afternoon. Twelfth grade students meet one hour each month with the HOP work experience teacher-coordinator to discuss the progress of their work experience. All HOP students take the American Red Cross Home Nursing Aides exam and are awarded a certification card and pin upon successful completion of the exam.

The Distributive Education Program (DE) emphasizes the skills needed for employment in marketing and distribution. This program begins in the 11th grade with a two-semester, one-credit course which concentrates on wholesale, retail and service occupations. In grade 12 DE students learn about selling, sales promotions and marketing operations in a two-semester, one-credit course given at the home high school in the morning and work at the work experience job-site in the afternoon.

The business education program offers Cooperative Office Work Experience (COE) and Business Data Processing Work Experience (BDP). Both of these work experience programs, available only for seniors, have prerequisites in related business courses, and require concurrent enrollment in the respective courses in Cooperative Office Education or Business Data Processing II which are held each morning at the students' home high schools.

The Cooperative Occupations Program (COP) is the only cooperative work experience program in which specific job skills are acquired solely through on-the-job training rather than through class work. Classroom instruction stresses the general knowledge required for all occupations. There are no prerequisites for entering the COP program. It is designed to allow students to begin the program in grades 10, 11, or 12; to remain in the program from one to three years; and to earn as many as seven and one-half credits. It is the only program which offers cooperative work experience for the second semester of 11th grade. There are three courses offered in the COP program; each course is given for two semesters and awards one-half credit for each semester. COP I explores job opportunities and work orientation; COP II includes instruction concerning employment preparation and consumer education; and COP III relates classroom work to the actual problems encountered on the job by each individual student. Students enrolled in the work experience portion of COP take courses at their home high school in the morning and are employed in businesses during the afternoon.

The Trades and Industry Cooperative Work Experience Program (T & I) is designed for 12th grade students who have completed 4 semesters of trade skill training at one of the two vocational-technical centers. These students take at least one class at their home high school each morning and work at the work experience job site in the afternoon. There are no concurrent trades and industry courses scheduled for 12th grade students who participate in cooperative work experience.

A total of 50 teacher-coordinators are responsible for the work experience programs at 12 high schools. Teacher-coordinators teach three periods daily and spend the other two periods placing students and working with employers. It is recommended that they visit job-sites approximately every two weeks to develop training plans and to evaluate and counsel students. Work experience teacher-coordinators also work a maximum of 22 days each during the summer to continue the coordinating responsibilities for students who are employed during the summer and to place students for September. In the area of trades and industry there are three fulltime work experience coordinators who devote all of their time to work experience coordination and have no classroom teaching duties.

A handbook has been developed to be used by work experience coordinators. Once every nine weeks, work experience coordinators meet for two hours according to program area with the coordinator of work experience programs. Inservice activities, planning, and evaluations are done at this time.

Table 1 shows the number of teacher-coordinators, number of students, and the number of hours worked in cooperative work experience programs.

Table 1

ENROLLMENT IN
COOPERATIVE WORK EXPERIENCE PROGRAMS
September 1, 1979 - January 11, 1980

Program	No. of Teacher Coordinators		No. of Students	No. of Student Hours Worked
Business Data Processing	12		154	51,508
Coop. Office Education	12		291	79,570
Coop. Occupations Prog.	10		299	141,429
Distributive Education	9		145	48,564
Health Occupations Prog.	7	(1 non-teaching)	62	20,871
Trades and Industry	3	(non-teaching)	275	123,389
TOTAL	53		1,226	465,331

The majority of students are placed in cooperative work assignments prior to the beginning of school. A total of 801 students participated in cooperative work experience between July and September 1979. Students who take part in cooperative work experience in the summer earn a minimum wage or higher but do not receive school credit. In 1979-80, 629 different employers hired cooperative work experience students in occupations ranging from fast food service to electronics.

During 1979-80 all 12 high schools offered cooperative work experience programs in health occupations, business data processing, and cooperative office education. All high schools except Severna Park offered the cooperative occupations program, and all high schools except Arundel, Meade, and Southern offered distributive education.

Table 2 shows the results of a three-month follow-up survey of 1979 graduates conducted by the department of vocational education. The survey was sent to 1,121 graduates who participated in cooperative work experience; 628 graduates replied.

Table 2

SURVEY RESULTS OF 1979
COOPERATIVE WORK EXPERIENCE GRADUATES

Presently Employed?		Related to Training?		Armed Forces?		Continuing Education?		Did Coop. Ed. Help you?	
Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
494	133	395	233	13	614	212	415	596	31

MAJOR RESEARCH FINDINGS

A review of the research and literature produced the following findings:

* *Work experience programs help students gain a clearer understanding of the world of work and what abilities they require to succeed.*

* *School may become more meaningful to students who are presently deriving little or no benefit from it today if there were more options available for combinations of school and work experience.*

* *Work experience opportunities aid youth in gaining a sense of maturity and independence.*

* *In many cases earnings from work experience are used for immediate needs or may be set aside for college costs.*

* *Although work experience programs do not eradicate dropping out of school and chronic truancy, they do increase the holding power of the school for many students.*

* *There is a need for job placement centers in the high schools to locate jobs for students within the school's work experience program, provide services for those about to graduate or for those who have dropped out, and conduct follow-up on students for at least two years after leaving high school.*

* *To be successful, work experience programs should include: 1) a community educational council, 2) school placement services, 3) more effective counseling services, and 4) greater parent involvement.*

* *Work experience provides situations that are more realistic and challenging than simulated classroom experiences.*

* *Employers continue to tell educators that graduates most often fail not because of a lack of occupational skills, but because of problems related to human relations and workers' attitudes. One way to encourage students to improve their interpersonal skills is to give them opportunities to practice those skills through work experience.*

* *An additional value of work experience is the possibility that students whose work has been satisfactory will be hired by the employers for whom they have been working.*

RECOMMENDATION

A major study of cooperative work experience programs is being conducted by the Department of Pupil and Program Evaluation. The results of this study will not be available until September, 1980. Therefore, the recommendation for cooperative work experience programs will not be made at this time pending the review of the results of this study.

PRESENT STATUS

Home Economics is an instructional program in the vocational education department offering both basic and skill courses. The basic courses allow student exploration and beginning skill development in general homemaking areas, whereas skill courses allow students to develop higher level abilities in specific areas, such as child development, clothing and textiles, housing, foods and nutrition, and management.

The courses, with one exception, are school-based and are not designed to provide job entry skills for specific wage earning occupations. The exception is the food service program offered at the North Arundel Vocational Technical Center, which does offer job entry level skill development opportunities.

The middle school academic program requires that all students in grades, 6, 7, and 8, take twelve weeks of exploratory home economics on a daily basis. A middle school curriculum guide was published in 1980 and contains units on housing, clothing and textiles, child development, foods, nutrition and personal development. Currently, a majority of middle schools and junior high schools requires students to take the program. Sixth grade students who attend elementary schools miss some facets of the middle school curriculum. Home economics facilities are adequate for implementing the program with the exception of Southern Middle School.

Beginning in grade nine and continuing through high school, home economics courses are taken on an elective basis. The following chart shows the number of high school students (grades 9 through 12) enrolled in home economics courses compared to the total student enrollment in grades 9-12, as of September, 1979, according to sex and race.

HIGH SCHOOL STUDENTS (GRADES 9-12) ENROLLED
IN HOME ECONOMICS COURSES
SEPTEMBER, 1979

	No. Enrolled	Total No. of Students Grades 9-12
Black Females	514	1,714
White Females	1,841	10,274
Other Females	43	134
Total Females	2,398	12,122
Black Males	125	1,273
White Males	276	10,676
Other Males	13	158
Total Males	414	12,107
Total Program	2,812	14,229

Examinations of course descriptions reveal some similarity between certain home economics courses and courses found in the social studies curriculum. The home economics course entitled Management, for instance, corresponds somewhat to the social studies

course entitled Psychology of the Individual. Likewise, Human Development II, found in the home economics curriculum, corresponds closely to Introduction to Sociology.

For 1979-80, a total of 44 full-time and two part-time home economics teachers were employed for the middle/junior high schools. Twenty-three full-time and six part-time teachers (two of whom were not home economics trained) were employed in the senior high schools.

Staff development is accomplished through workshops and one countywide inservice day. In 1974-75, two workshops were offered in Continuous Progress/Individualized Instruction, one in Housing, and one in Audio-Visual Production for vocational education teachers. In 1975, 1976, and 1980, workshops were offered in Child Development. In 1978-79, mini-workshops were offered. These sessions of two hour duration were held monthly and attended on a voluntary basis. Currently six teachers are participating in competency-based, field-experience training in the area of child development.

MAJOR RESEARCH FINDINGS

A review of the research and literature produced the following findings:

* *In order to be responsive to changing social conditions and needs, the home economics program should consider the following:*

  - *The number of working mothers in 1974 was 2.25 times as great as the number of full-time homemakers. Single women head 16% of all American families indicating a greater demand for those skills needed to operate a home while working in another job.*

  - *In 1977, about 19% of married couples with children are dual career families with husbands and wives tending to share home responsibilities.*

  - *In 1979, 2.2 million Americans were classified as househusbands.*

  - *According to the Youth Values Project survey, sponsored by the Population Institute, marriage ranked 14th in importance among girls and 16th among boys after such choices as "getting a job" and "getting good grades."*

* *Students are more likely to find home economics educationally relevant when content can be applied to potential career situations. Home economics has the responsibility to provide students with the opportunities to develop skills, knowledge, and attitudes to become employable.*

* *An increase in service occupation will demand a greater number of workers trained in home economics-related skills.*

* *Certain segments of home economics can be integrated with other areas because it utilizes basic principles from many disciplines such as health education, business education, social studies, and science.*

RECOMMENDATION

Although job projections indicate an increasing demand for service workers who have received training in home economics, the current program does little to prepare students with job-entry level skills in home economics-related occupations. While the middle schools curriculum has been designed to give students an overview of home economics, the existing elective courses at the high school level do not reflect changing family patterns and social needs. To ensure a correlation between home economics curriculum and student needs, the high school elective program must be redesigned. Therefore, the Committee recommends:

* MODIFICATION AND/OR ADJUSTMENT OF THE PRESENT HOME ECONOMICS PROGRAM TO PROVIDE INTRODUCTORY EXPLORATORY EXPERIENCES, CAREER EXPLORATION OPPORTUNITIES, AND JOB-ENTRY LEVEL SKILLS, AS WELL AS BASIC LIFE SKILLS AND THOSE NEEDED FOR AVOCATIONAL INTERESTS.

In implementing the above recommendation, the Committee proposes:

1. Full implementation of the middle/junior high school requirement that home economics be taken by all students.

2. Development of an exploratory program of careers requiring home economics skills for the ninth grade level.

3. Offering programs which provide entry level occupational skills and develop avocational interests.

4. Modifying the curriculum to eliminate duplication with other curriculum areas.

5. Development and implementation of inservice training to update the knowledge and skills of home economics teachers as related to and coordinated with curricular change.

The foregoing recommendation will require:

a. Renovation of the facilities at Southern Middle School and elsewhere as needed.

b. Development of curriculum for a high school elective course offering occupational exploration.

c. Combining and restructuring content of certain courses at the high school level to insure a greater variety of life skills and/or vocational interests.

d. Expanding, merging or developing programs, as the case may be, in order to provide entry level job skills. This action could include, but should not be limited to:

- Expanding the present child development program to provide job-entry occupational skills for professional day care workers and teacher aides.

- Merging the food services program offered at the vocational technical center with food courses offered at the comprehensive high schools.

- Developing a program to offer job-entry level skills in a variety of needle trade occupations.

OUTCOMES

With adoption of this recommendation, the following outcomes are projected:

- All students at the middle/junior high school level will take home economics as required.

- Students will have greater opportunities for career exploration in occupations related to home economics.

- Students will acquire job-entry level skills for home economics related occupations, and hence will have greater opportunities to secure employment in such fields.

- Students will be better prepared to adapt to changing life styles.

- Students will have the opportunity to develop skills related to a variety of avocational interests.

- Teachers will acquire knowledge and skills needed to implement occupational programs.

PROGRAM AREA: Vocational Education
CONSIDERATION: TRADES AND INDUSTRY

PRESENT STATUS

Trades and industry programs are designed to prepare vocational students for full-time work immediately following graduation or for postsecondary education. Courses in trades and industry are available only at North Arundel Vocational-Technical Center, South River Vocational-Technical Center, and Southern High School. All trades and industry students spend a portion of the school day at their home high schools and are bused to the centers for instruction in trade areas.

Students may begin exploring trades and industry in the ninth grade by taking the Fundamentals Program which is a course in career exploration. This program is offered at the North Arundel Vocational-Technical Center and the South River Vocational- Technical Center both during school hours and after school. The purpose of the program is to give students an opportunity to sample procedures and tools of several trades areas. Students are bused to the center from their respective schools. Seventy-five minutes of daily instruction are given in a trade area for six weeks. The students explore three different crafts per semester. Instead of grades, evaluations of satisfactory or unsatisfactory are used. One and a half credits are granted for successful completion of the year-long program. As of September 1979, 407 students were enrolled in the program at North Arundel and 166 at South River. Approximately 50% of the students who complete the Fundamentals Program enroll in vocational courses in the tenth grade.

For the 1979-80 school year an exploratory course in the building trades was offered for the first time to ninth grade students at Annapolis Junior High. The course explored the areas of carpentry, plumbing, electricity, sheet metal, and masonry. The semester-long course was taught by an industrial arts teacher and is scheduled for two periods daily. Forty-three students enrolled in the course this year.

Trades and industry courses are planned for a three year sequence that require vocational students begin training in specific trade areas in the tenth grade. All trades and industry students spend a portion of the school day at their home high schools and are bused to the centers for instruction in the trade areas. The following amount of daily instruction, depending upon the program, is provided: tenth grade - between 75 and 150 minutes, eleventh grade - between 150 and 200 minutes, and twelfth grade - either 150 minutes or participation in cooperative work experience.

Students apply for trades and industry programs prior to completion of ninth grade. Applications are reviewed by the administrative and guidance personnel at the vocational-technical centers. Students list by priority the three programs they would like to pursue. An effort is made to place students in the program of their choice; however, when the number of applicants exceeds the enrollment capabilities, the following criteria are used: attendance, recommendation by the home economics/industrial arts teacher, reading and mathematics ability, and consideration of the student mix as it applies to minorities, non-traditional applicants, and handicapped applicants. Students who satisfactorily complete the Fundamentals Program are guaranteed acceptance into the center but not necessarily into the program of their choice.

Credit for trades and industry courses is awarded where satisfactory completion of two continuous semesters in one school year are accomplished. No credit is awarded for incomplete course work. All students upon completing or leaving a program are awarded a skill card which certifies the skills they mastered in shop work.

Table 1 depicts the number of students, by sex and race, who were enrolled in trades and industry programs as of September, 1979.

Table 1

ENROLLMENT IN TRADES AND INDUSTRY PROGRAMS
September, 1979

By Sex and Race

	Auto Body	Appliance Repair*	Auto Mechanics	Carpentry	Cosmetology	Diesel*	Drafting*	Electricity	Electronics	Food Service*	Graphics*	Home Improvement	Horticulture	Machine Shop*	Masonry	Plumbing*	Practical Nursing*	Sheet Metal*	Warehousing*	Welding	Hotel & Lodging+	Marine Service	Small Engine+	Agriculture/
Black Males	47	3	23	10	0	1	3	8	0	1	0	12	6	1	22	2	0	2	2	7	0	6	2	3
White Males	92	25	258	81	1	36	39	77	46	15	16	75	46	48	70	45	0	45	8	52	2	26	23	34
Other Males	3	0	2	1	0	2	0	2	0	0	1	1	0	0	2	2	0	2	0	1	0	0	1	0
Black Females	0	0	1	1	24	0	1	1	0	10	1	0	6	0	0	0	2	0	2	0	16	0	0	0
White Females	0	2	4	1	89	0	10	1	0	25	12	0	34	0	0	0	49	0	14	3	19	1	0	1
Other Females	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Total Blacks	47	3	24	11	24	1	4	9	0	11	1	12	12	1	22	2	2	2	4	7	16	6	2	3
Total Whites	92	27	262	82	90	36	49	78	46	40	28	75	80	48	70	45	49	45	22	55	21	27	23	35
Total Others	3	0	2	1	0	2	0	2	0	1	1	1	1	0	2	2	0	2	0	1	0	0	1	1
Total Males	142	28	283	92	1	39	42	87	46	16	17	88	52	49	94	49	0	49	10	60	2	32	26	37
Total Females	0	2	5	2	113	0	11	2	0	36	13	0	41	0	0	0	51	0	16	3	35	1	0	2
Total Program	142	30	288	94	114	39	53	89	46	52	30	88	93	49	94	49	51	49	26	63	37	33	26	39

KEY:

* = offered only at NAVTC
+ = offered only at SRVTC
/ = offered only at Southern Senior

At the tenth grade level, students have a choice of two curricular avenues. Those enrolling in courses shown in Table 1 attend classes one and a half periods per day for the entire school year. The first semester is devoted to one of a pair of courses, the second semester to the second unit in the pair. Students are required to take both of the courses which comprise a course pair and receive one and one-half credits for completion of a course pair. A sample of course pairs is shown in Table 2. Pairs may fluctuate according to scheduling.

Table 2

SAMPLE PAIRED COURSES-ONE SEMESTER EACH

Major Appliance	and	Electricity
Auto Body	and	Welding
Home Improvement	and	Masonry
Food Service	and	Horticulture
Horticulture	and	Warehousing
Machine Shop	and	Plumbing
Sheet Metal	and	Carpentry
Drafting	and	Graphic Arts
Warehousing	and	Food Service
Carpentry	and	Masonry
Small Engines	and	Marine Repair
Electricity	and	Home Improvement
Hospitality	and	Tourism
Air Conditioning*	and	Electricity

* Note: The lack of a qualified instructor prevented the air-conditioning service and repair course from being held at South River for 1979-80.

Students taking the second curricular approach are those enrolled in courses shown in Table 3. These students take one of the five courses shown for an entire school year, attending classes in those subjects three periods a day during both semester I and semester II. Three credits are given on an annual basis.

Table 3

SINGLE COURSES-TWO SEMESTERS

Agriculture
Auto Mechanics
Cosmetology
Electronics
Practical Nursing

After completion of tenth grade courses, students specialize in one course from the paired offerings or continue in the single courses for eleventh grade work. These courses are scheduled for three periods a day for two semesters. Three credits are awarded on an annual basis. Cosmetology courses are scheduled for four periods a day for two semesters with four credits awarded on an annual basis.

At the end of eleventh grade, trades and industry students may sign up for cooperative work experience. Many students are placed at the work experience stations during the summer. These students earn at least the minimum wage but no credit. During the twelfth grade cooperative work experience students take at least one class at their home high school in the morning and work at the job-site in the afternoons. Students who do not participate in cooperative work experience spend three periods per day for two semesters at the vocational center extending and refining their skills.

In order to participate in the work experience program students must have completed four semesters of study at one of the centers, be approved by the principal, obtain parental permission, and provide their own transportation to the job site.

Between September 1, 1979 and January 11, 1980, 261 trades and industry students spent a total of 111,107 hours in cooperative work experience. Two-hundred forty-seven twelfth grade students remained at the vocational-technical center instead of participating in cooperative work experience. Students in work experience create vacancies at the vocational-technical centers which allow other students to be brought to the centers. During the second semester of 1980, 96 new vocational students were admitted into the two centers. At the same time the following number of non-vocational students (students not enrolled in vocational programs) earned one and a half credits in 3 courses at the North Arundel Vocational Technical Center: Small Engine Repair - 11 students; Car Care - 15 students. No such programs were offered at South River in 1980.

The amount of class time required by the state for licensing prohibits most cosmetology students from participating in cooperative work experience. Occasionally, however, some cosmetology students do complete time requirements and pass the state examinations before graduation making them eligible for the work experience program. Practical nursing students may not take the state licensing exam until after graduation and therefore are not able to participate in cooperative work experience. Twelfth grade Cosmetology and Practical Nursing students spend four periods daily for two semesters at the vocational centers and earn four credits.

Table 4 shows the county time requirements for all trades and industry courses as established by the office of vocational education.

Table 4

REQUIRED HOURS FOR 3 YEAR TRADES
AND INDUSTRY PROGRAMS

PROGRAM	GRADE LEVEL			TOTAL COURSE
	10	11	12	
	HOURS			
Air Conditioning	225	465	465	1155
Agriculture	225	465	465	1155
Appliance Repair	225	465	465	1155
Auto Body and Fender Repair	225	465	465	1155
Auto and Diesel Mechanics	465	465	465	1395
Carpentry	225	465	465	1155
Cosmetology +	465	465	705	1635
Drafting	225	465	465	1155
Electricity	225	465	465	1155
Electronics	465	465	465	1395
Foods	225	465	465	1155
Graphics	225	465	465	1155
Home Improvement	225	465	465	1155
Horticulture	225	465	465	1155
Hospitality	225	465	465	1155
Machine Shop	225	465	465	1155
Marine Repair	225	465	465	1155
Masonry	225	465	465	1155
Practical Nursing ≠	465	465	465	1575
Sheet Metal	225	465	465	1155
Small Engine	225	465	465	1155
Warehousing	225	465	465	1155
Welding	225	465	465	1155

+ State requirement - 1500 hours
≠ State requirement - 1300 hours.

Facilities at the vocational centers are not used in the evenings or summer for regular high school courses, however, adult education courses are held at both centers. In the spring of 1980 the following adult trades and industry education courses were held: auto mechanics, computer programming, electrical repair, welding, woodworking, horticulture, masonry, and small engine repair. A federally-funded 1980 summer program was offered at South River and satellite locations for six weeks for 81 students in the trades and industry areas of automotive maintenance, welding, masonry, typing, as well as other courses in business and industrial arts. The program is planned for the following people: those who are out of school and out of work, those who are working but need further training for advancement, and eighth and ninth grade students who plan to enter vocational programs.

Curriculum guides have been developed for all trades and industry areas. The curriculum is based on occupational skills and competencies.

MAJOR RESEARCH FINDINGS

A review of research and literature produced the following findings:

* *There has traditionally been disagreement between vocational and academic educators concerning the worth and need for their respective programs.*

* *Vocational education makes school meaningful for many students.*

* *Vocational programs allow the academically poor student to experience success and encourages would-be dropouts to remain in school.*

* *Vocational education provides assistance to certain students not adequately served by academic or general education.*

* *Rapid technological changes may make specific skills and/or jobs obsolete. Sixty million jobs will change in character in the next generation.*

* *Educators should place greater emphasis on general skills anticipating the many job changes in life.*

* *An individual's ability to adapt to job changes and transfer prior skills, knowledge, abilities and attitudes to new applications can have significant impact on his initial success in a new job.*

* *There is a growing interest toward teaching technical concepts and principles that have broad applications for a variety of jobs within occupational clusters to*

prepare persons for employment in a number of different, yet related, occupations.

* *Many students who are trained for a specific occupation receive employment in areas unrelated to that training.*

* *The emphasis on skill training and length of programs keep students from receiving a broad educational background.*

* *It has been shown that when subjects such as math and physical sciences are presented in traditional forms they have little meaning for vocational students who need to actively apply concepts to something relevant.*

* *Employers report that graduates who experience difficulty on the job usually do not lack occupational skills, but have problems with human relations and work attitudes.*

* *The prohibitive cost to school systems of maintaining technologically advanced industrial equipment, necessitates investigating possibilities for industry to assist in occupational skill development.*

* *A disadvantage in making occupational training the responsibility of employers is that only in the largest firms is it economically feasible for skilled workers to spend time in the training of others.*

* *There is a serious shortage of vocational education teachers.*

* *Vocational education students feel they receive more counseling from their vocational teachers than non-vocational education students did from their teachers.*

* *The large number of high school students who make unrealistic career choices accentuates the need for counselors who have had experience in other than purely academic areas.*

* *Employment rates for vocational graduates are higher than for comparable age groups in the total labor force.*

* *Economically, vocational graduates are doing as well as or better than graduates of other curricula.*

* *There is an increased feeling that vocational education has something to offer all students and that the*

whole pattern of academic and occupational education must become complementary.

RECOMMENDATION

A major study of trades and industry programs is being conducted by the Department of Pupil and Program Evaluation. The results of this study will not be available until September, 1980. Therefore, the recommendation for trades and industry programs will not be made at this time pending the review of the results of this study.

SUMMARY OF RECOMMENDATIONS FOR SPECIFIC PROGRAM AREAS

Recommendations for program areas have been grouped into four broad categories. In the first category are those recommendations concerning existing programs that should be implemented to the degree that they were originally approved by the School Board. Also included in this grouping are recommendations which require refinement of or modification to current programs, such as development of course guides for existing courses.

The second category groups recommendations which require adding new dimensions to existing programs. For example, calculators are currently being used on a scattered basis in math classes, the recommendation is to provide a planned county-wide program for using calculators.

In the third category are found those recommendations which will lead programs into new directions. An example is the introduction of occupational skills into home economics courses.

In the fourth category are a number of recommendations concerned with adding new components to program areas. The three new components which have been recommended for the foreign language program (Community-Based Experiences, Elementary School Programs, and Exchange Programs) will require some resources but will not require extensive curriculum development, staffing, or additional facilities to implement. They have, therefore, been grouped in the first subdivision for new program components. In contrast three recommendations (All Day Kindergarten, Pre-Kindergarten, and Drownproofing) will heavily impact the school system in terms of resources needed to implement the programs. It naturally follows that these three recommendations have, therefore, been grouped together in the second subdivision.

The following is a list of major recommendations categorized as described above. These categories do not reflect priority order for implementation.

Ten-Year Plan Program Recommendations

Modification and/or Implementation

- **Art:** Maintenance and refinement of the art program so that it is emphasized as a basic part of the comprehensive curriculum, K-12.
- **Driver Education:** Continuing the driver education program until July 1, 1983, and making the program available to students in the evening high school on a non-credit basis.
- **English Language Arts (Curriculum):** Refinement of the English language arts curriculum and implementation of instructional practices to ensure that an appropriate scope and sequence of skills is being offered to all students at all levels.

o **Foreign Language (ESOL):**	Continuation of the ESOL program on an itinerant basis.
o **Mathematics (Historical Topics):**	Incorporation of the history of mathematics into the mathematics curriculum.
o **Mathematics (Probability and Statistics):**	Modification and revision of the K-12 mathematics curriculum to include those concepts of probability and statistics needed for students to function effectively in society and the application of use be encouraged in all other curriculum areas where appropriate.
o **Physical Education:**	Full implementation of the requirement that physical education be a part of each student's program in grades K-8, and greater emphasis on lifetime sports activities in the elective program beyond the one-credit requirement at the senior high school level.
o **Science:**	Ensuring that the science program reflects the content, processes, skills and applications needed by all students in order to become scientifically literate.
o **Social Studies (Citizenship/ Government):**	Greater emphasis on citizenship and government at the state and local levels in the social studies curriculum.
o **Social Studies (Curriculum):**	Retention of the present conceptual framework of social studies, with further development, modification and refinement of the program.

New Dimensions

o **Reading (Reading in Content Area):**	Expansion of content reading in all subject areas (K-12) for all types of readers.
o **English Language Arts (Writing in Content Area):**	Increased emphasis on writing skills in all content areas.
o **Mathematics (Calculators):**	The use of calculators be incorporated as an integral part of mathematics instruction, K-12, and the application of their use be encouraged in all other curriculum areas where appropriate.
o **Mathematics (Computers):**	The use of computers and programmable calculators as an integral part of mathematics instruction, K-12, and the application of their use be encouraged in all other curriculum areas where appropriate.

- **Media:** Development of a K-12 curriculum for the library media program and the equalization of the delivery of services among schools.

- **Music:** A comprehensive music program be provided for all students K-12.

- **Physical Education (Interscholastic and Intramural Sports):** Opportunities for all students to participate in intramural and/or interscholastic activities on an organized basis.

New Directions

- **Business Education:** Continued refinement of the business program to prepare business students for changing occupational requirements for job entry skills as well as to prepare other students to participate in the business world.

- **Foreign Languages (Introduction of the Less Commonly Taught Languages):** Offering at least one of the less commonly taught languages in each of the senior high schools.

- **Gifted/Talented/ Advanced Programs:** Development and implementation of programs for gifted/talented and advanced students in all instructional areas which provide for their needs on a daily basis.

- **Guidance:** Establishment of a K-12 counseling program based upon student outcomes.

- **Health Education:** Development, adoption and implementation of a comprehensive health education program as a separate subject in the curriculum.

- **Home Economics:** Modification and/or adjustment of the present home economics program to provide introductory exploratory experiences, career exploration opportunities and job-entry level skills, as well as basic life skills and those needed for avocational interests.

- **Industrial Arts:** Modification and revision of the industrial arts curriculum, of an elective school-based program in career exploration in all ninth grades.

New Program Components:

Minor Implications for Resources

- o **Foreign Language (Community-Based Experiences):** Development of a program to allow students to apply their language skills while working as volunteers in the community.
- o **Foreign Language (Elementary School Program):** Implementation of the foreign language program in all elementary schools, beginning at grade four.
- o **Foreign Language (Exchange Programs):** Implementation of a teacher/student exchange program.

New Program Components:

Major Implications for Resources

- o **Early Childhood (All-Day Kindergarten):** Availability of all-day kindergarten programs for all eligible children.
- o **Early Childhood (Pre-Kindergarten):** Pre-kindergarten programs be available for all four year olds.
- o **Physical Education (Drownproofing):** Including water safety with special emphasis on drownproofing, as an integral part of the physical education curriculum.

PART IV

Implementation

PRELIMINARY ACTIVITIES FOR IMPLEMENTATION OF TEN-YEAR PLAN FOR EDUCATIONAL EXCELLENCE

Since the plan's inception in July, 1979, a great deal of time and effort has been devoted to the development of the Ten-Year Plan for Educational Excellence. This effort would be incomplete, however, without an implementation component to ensure that the recommendations - the culmination of intense planning and research - do, indeed, come to fruition. Therefore, the Committee recommends the following activities be undertaken during the next year as preliminary steps for the implementation of the Ten-Year Plan:

	Activity	Date
1.	Hold work session with Board	August/September 1980
2.	Provide information on 10-Year Plan to staff and general public	September-December 1980
2.1	Place at least one copy of plan in all public libraries	September 1980
2.2	Provide overview of plan's intent to principals and program coordinators	August 20, 1980
2.3	Hold information/work session with instructional directors	September 1980
2.4	Hold information/work sessions with each instructional director and his/her respective principals or program coordinators	September 1980
2.5	Principals hold information/work sessions with respective staffs and local CAC's and PTA's	September-December 1980
2.6	Provide overview of plan's intent and hold information session with countywide CAC, PTA, and other civic/community organizations	September-December 1980
3.	Secure staff and public input	September-December 1980
3.1	Secure staff and public input informally through information/work sessions mentioned in 2.2-2.6 above	September-December 1980
3.2	Develop and distribute survey to secure staff and public reactions to plan (Survey will be distributed at meetings listed above in 2.2 - 2.6, and collected either at those meetings or through return mail.)	Development: September 1980 Distribution: September-December 1980

4.	Analyze staff and public input received through survey and sessions listed above and present results to Board	Analysis: January 1981 Presentation: February 1981
5.	Based upon Board's direction, develop countywide implementation plan for those prioritized recommendations	February/March 1981
6.	Tie prioritized recommendations to State of Schools report	May 1981 (for presentation in July 1981)
7.	Establish procedures for implementing recommendations at the school level	June/July 1981
7.1	Establish procedures for each school to assess its needs in light of the recommendations	June/July 1981
7.2	Establish goals and objectives relating to the assessed needs at each school	June/July 1981
7.3	The goals and objectives to evaluation of central office and school-based personnel responsible for implementing those goals and objectives	June/July 1981 for Spring 1982
8.	Present monthly reports to Board on status of plan	September 1980-August 1981

The planning process should not be something which occurs once every ten years; but rather, is an ongoing process. Likewise, the plan itself, should be used as a basis to which a continual review and, at least, an annual update is made. Thus, the status of the plan should be reported to the Board on a regular basis throughout the plan's existence.

Ensuring that the aforementioned activities are carried out will be the responsibility of the Office of Program and Staff Development. To assist in this endeavor it is recommended that one person who has been involved in the process of developing the Ten-Year Plan be retained in this office as a teacher specialist for educational planning. The overall implementation process of the Ten-Year Plan, and the coordination thereof with the implementation of the Fifteen-Year Comprehensive Plan for School Facilities, shall be the responsibility of the Administrative Assistant to the Assistant Superintendent for Program and Staff Development. Both individuals, reporting to the Assistant Superintendent for Program and Staff Development, shall work in conjunction with various members of central office and school-based staffs to ensure that the recommendations approved by the Board are implemented.

EPILOGUE

EPILOGUE

When a document such as this is prepared, it is difficult to address every issue that deals with providing qualify education. Issues included in the study were those the Committee felt, as of today, would be most critical to achieving educational excellence. However, the Committee is certain that as this document is read, others will find additional issues that they feel should be addressed.

Hence, the material within should be viewed as an initial effort to give direction for attaining educational excellence.

APPENDICES

APPENDIX A

RESOURCES OUTSIDE OF ANNE ARUNDEL COUNTY PUBLIC SCHOOLS

American Council on the Teaching of Foreign Languages

Jane Bourque
President

Association for Supervision and Curriculum Development

Benjamin Ebersole
President

Colleges and Universities

John Bert
Health Education
University of Maryland

Neil Gallagher
Health Education
Towson State University

David Lockard
Professor of Botany and Science Education
University of Maryland

John Palmer
Dean of Technical Education
Anne Arundel Community College

Guy G. Reiff
University of Michigan

Conference Board of Mathematical Sciences

Truman Botts

General Demographics and Futures

Katherine E. Eisenberger
National Director
AASA Demographic Awareness Project

Maryland State Department of Education

James Addy
Consultant in Social Studies and Law Education

Anne Beusch
Specialist in Foreign Language and ESOL

Addison Hobbs
Assistant State Superintendent for Vocational Education

Doris Terry
Specialist in Health Education

National Center for Health Education

Clint Bruess
Staff Director

National Council of Teachers of Mathematics

Joseph Caravella

James Gates
Executive Director

Harry Tunis
Director of Research Services

National Council of the Social Studies

Paul Purta
Executive Director

Daniel Roselle
Editor, NCSS Publications

Elizabeth Scott
Associate Director and Coordinator

National Institute of Education

Cameron Buchanan
Department of Education in Home, Community and Work

Lois-ellen Datta
Assistant Director
Program on Teaching and Learning

Christopher Dede
President of Education Division of the World's Future Society

National Institute of Education (Continued)

Todd Endo
Administrative Assistant to Acting Director

Edward Esty
Associate, Learning Division

Geraldine La Rocque
Director of English Education
University of Northern Iowa

Robert Wise
Director, Department of Education in Home, Community and Work

Saul Yanofsky
Assistant Director
Program on Educational Policy and Organization

National Science Foundation

Al Buccino
Director, Office of Program Integration

National Science Teachers Association

Dorothy Culbert
Director, Field Services, Secondary Education

Other Organizations

Peter Eddy
Director, Center for Applied Linguistics

Pamela Moore, M.D.
Health Services
Anne Arundel County Health Department

Joe Shenouda
Manager, The Source Telecomputing Center

Other Public School Systems

Gary Freeman
Assistant Superintendent, Region VI
District of Columbia Public Schools

Private Consultants

Ralph W. Tyler
Former Dean of the Division of Social Sciences
University of Chicago

Director, Emeritus
Center for Advanced Study in Behav' ›ral Sciences
Stanford, California

President's Council on Physical Fitness & Sports

C. Carson Conrad
Executive Director

Professional Meetings and Conventions

Conference - "Population Change: A Contempary Issue," sponsored by the Population Education Institute, Towson State University

Maryland Council of Teachers of Mathematics
Potomac Regional Mathematics Conference

MSDE Health Education Seminar Keynote Speaker:
William Kane
Executive Director
Association for the Advancement of Health Education

Regional Conference on Education for the 21st Century - Global/International Education, sponsored by World Bank, UNICEF and World Futures Society

Program Area: ENGLISH

CONSIDERATION: *Writing in the Content Areas*

RECOMMENDATION:

To include writing in the content areas as an instructional program emphasis in each academic area, with assistance from the English program coordinator.

YEAR	A Curriculum Development	B Staff Training	C MOI/Equip.	D Staffing	E Program Start Up	F Evaluation	NOTATIONS/EXPLANATIONS
1	✓	✓			✓		1A–Examine curricula in four program areas for areas in which writing may be properly inserted as a legitimate program learning activity. (coord.) 1B–Inservice with prog. coords. to assist in understanding overall goals of new writing emphasis and ways inwhich they may be achieved through combined effort. (cord.) 1E–Implementation of writing in content area activities in four program areas countywide (coord. + dept. of instruc.)
2	✓	✓			✓	✓	2A–Examine curricula in four additional program areas with purpose as outlined in 1A above (coord.) 2B–In-school inservice with tchrs. to assist in better integrating formal writing activities into content areas. (coord+staff devel.) 2E–Implementation of writing in content area activities in four additional program areas (coord. + dept. of instruction) 2F–Evaluate 1st year efforts as outlined in Year One charted activities (coord.+office of pupil & prog. eval.)
3	✓	✓			✓	✓	3A–Examine additional program areas with purpose as outlined in 1A above; refine or modify 1st year efforts as a result of function 2F above (coord.) 3B–Additional tchr. training as outlined in 2B above (coord.+staff devel.) 3E–Implement activities in additional program areas where appropriate as determined by activity 3A (coord.+dept. of instruc.) 3F–Evaluate 2nd year efforts (coord.+pupil & prog. eval.)
4	✓	✓				✓	4A–Modify and refine approach to 2nd year implementation efforts as dictated by function 3F above (coord.) 4B–Continuing inservice with tchrs. (coord.+staff develop.) 4F–Evaluate 3rd year efforts (coord.+pupil & prog. eval.)
5	✓					✓	5A–modify and refine 3rd year efforts as dictated by function 4F above (coord.) 5F–Evaluation of entire concept and its implementation (coord.+pupil & prog. eval.)
6							
7							
8							
9							
10							

PLANNING CHART

NOTE: THIS IS A SAMPLE CHART ONLY. THE INFORMATION IS FICTITIOUS, BUT REFLECTS THE TYPE TO BE FOUND ON ACTUAL CHARTS.